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Volume 5, Number 1 $3.50 August/September 1987

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TEACHING and computers™

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August/September 1987, Vol. 5, Issue 1

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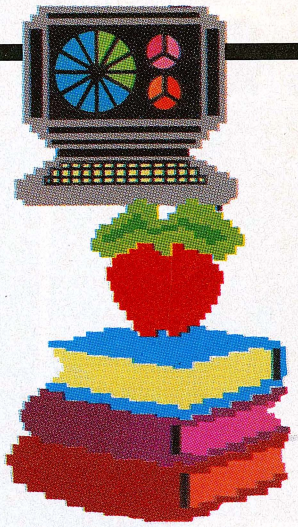

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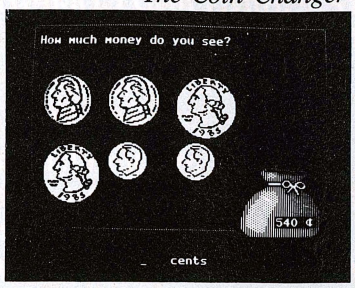

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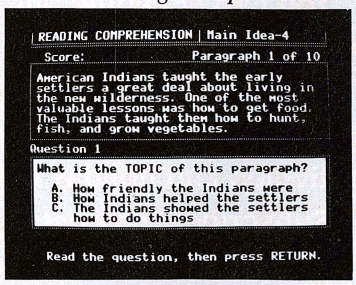

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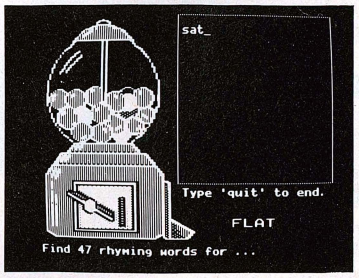

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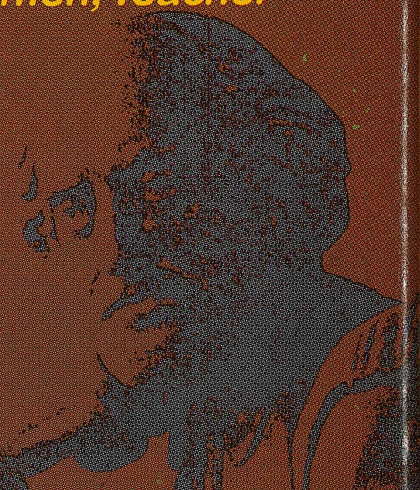

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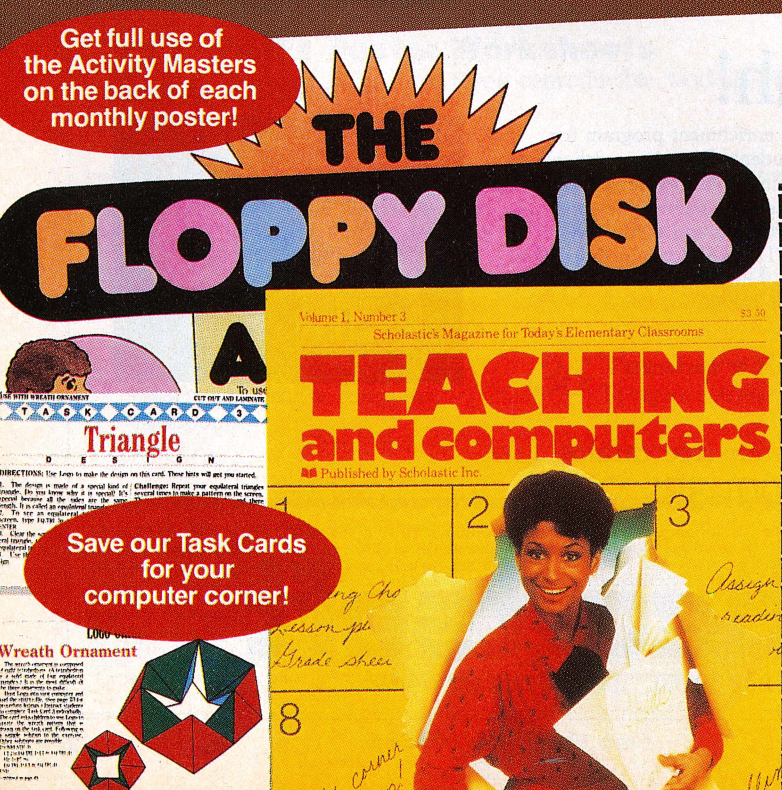
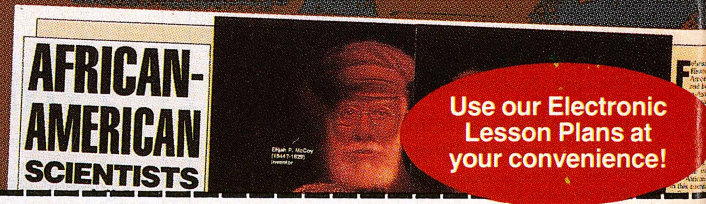


Save our Task Cards for your computer corner!



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FROM THE EDITOR

Growing Up Together

Educational computing is changing fast — and *Teaching and Computers* is changing with it.

In 1981, when *T&C* was but a twinkle in an editor's eye, only 18 percent of the schools in America used computers. But as we enter our fifth publishing year, that number has reached 96 percent. That includes 95 percent of all public elementary and 77 percent of private schools, which together can lay claim to some half a million computers as of 1986.

At the forefront of this rapid growth have been computer-using teachers like you and the other readers of *Teaching and Computers*. You've brought vision and dedication to the difficult task of integrating the machines into your classrooms. Because you've demanded the same of us, *T&C* has become the most-read magazine of its kind among elementary school teachers.

In honor of your growth and ours, this first issue of the 1987/88 school year is full of new attractions.

Like the shoemaker's children who have no shoes, the computer-using teacher's own workload is often the last thing to benefit from computerization. This issue's cover story could change all that. In **Back-to-School Breakthroughs** (page 16), classroom management expert Susan C. Jacoby suggests a variety of ways you can use your computer to breeze through those organizational tasks that every teacher faces before the first student walks in the door. Throughout the year, Susan and others will offer further advice on how computers can make *your* work faster, easier, and more effective.

We've also added a new monthly section to help incorporate computers into every subject you teach. Our **Electronic Lesson Plans** (page 37) are concise, creative, curriculum-based teaching ideas provided to us by educators across the country. This month, for example, you'll find lesson plans in Language Arts, Math, Art, and Social Studies. And to reward your students when their regular work is done, we offer **Computer Challenges**, an ongoing series of ingenious independent study projects created by former *T&C* editor Mary Dalheim. (Mary, by the way, is now on assignment by Scholastic to develop its first line of teacher activity books in a wide range of subject areas, modeled after the bestselling *T&C Computer IdeaBook*.)

With the dawn of the Information Age, "thinking skills" may join the Three R's as fundamentals of elementary education. Give your students a head start (and some serious fun) with **The Think Tank**, our new monthly task card series that teaches problem solving and thinking skills (see page 12). The series is brought to you by veteran *T&C* contributor Tom Boudrot, creator of last year's Grover Groundhog and other task card favorites.

Planning a unit on the Constitution in honor of the Bicentennial? Bring your computer into the act with our **Celebrating the Constitution** poster (see center section). It's jam-packed with information and activities your kids will love, right down to the three worksheets on the flipside. (There's a page of Teacher's Notes there for you, too.)

What about those proven *T&C* materials that you've come to rely on — the news and reviews, the quick tips and extended class projects? They're all back, too, and better than ever. In addition to such regular departments as **Update, Classroom Happenings, Micro Ideas,** and **Software Showcase**, this issue features a timely social studies teaching unit called **Opinion Poll** (complete with its own ready-to-use BASIC program) on page 30. And don't forget **First Steps** (page 42), our popular column for teachers of the primary grades.

In fact, everything we have planned for this issue and the issues ahead is pure *T&C:* fresh, practical, and designed with you in mind. That's one of the benefits of growing up together!

M. Kavanagh

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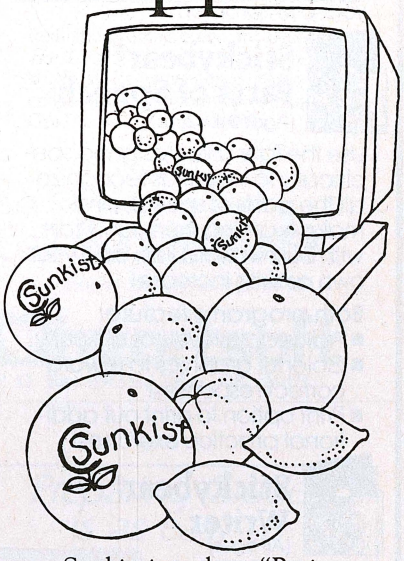
Teach your students to grow oranges on their Apples.



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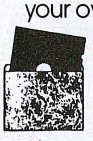

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UPDATE

NEWS FOR COMPUTER-USING TEACHERS

OCTOBER IS COMPUTER LEARNING MONTH

October is Computer Learning Month, and to help celebrate, educational software and computer companies, national education organizations, and state departments of education are providing a plethora of activities and materials for educators, parents, and kids. Among the "goodies" you can look forward to are:

- **Five contests** — four for students in grades K through 12, and one for teachers. Contest titles are: Student Art (Computer Generated), Student Art (Noncomputer Generated), Student Essay, Teacher Lesson Plan Idea, and Group Project. Hardware and software will be awarded to the more than 50 winners. The deadline for all five contests is October 22, 1987.
- **A Computer Learning Month poster** that illustrates how computers help children learn. The flip side provides lesson plan ideas for teaching with computers.
- **A booklet** entitled "What Every Parent Needs to Know About Educational Computing" (which teachers who do not use computers in their classrooms may also find helpful). The booklet discusses the educational benefits of computers, as well as how computers can be used most efficiently with children.

To receive the free publications, guidelines for the contests, and information about other scheduled activities, contact Computer Learning Month, P.O. Box 19763, Washington, D.C. 20036-0763; 202/223-4338.

STUDY IDENTIFIES TEACHER TRAINING AS TOP PRIORITY

According to a recently issued report by the Office of Technology Assessment (OTA), teacher training is mentioned most frequently by educational researchers, computer manufacturers, software developers, and educational policymakers as the top priority to assure successful computer use in schools.

The report, "Trends and Status of Computers in Schools: Use in Chapter 1 Programs and Use With Limited English Proficient Students," is part of a larger study called "Educational Technology: An Assessment of Practice and Potential."

The interim report identifies four areas that "need attention to improve the use of technology already in schools and to reach the potential that technology can offer." The areas are: teacher training, software development, dissemination of information, evaluation and research.

In regard to teacher training, the study reports that less than one-third of all U.S. teachers, but more than one-half of all computer-using teachers, have had at least 10 hours of computer training. Fifty-three percent of those received their training in ways other than school in-service programs, the report says. They took colleges courses, for example, or attended a seminar offered by a computer dealer.

To receive a copy of the report, send $18.95 plus $3 postage and handling to: National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161; 703/487-4650. Request report number PB87-1767231/AS.

HANDS-ON COMPUTER EXHIBIT HONORS THE CONSTITUTION

"Would You Have Signed the Constitution?" is the question posed by an interactive computer exhibit unveiled this summer at the National Archives Museum in Washington, D.C.

The computer display, which was co-sponsored by Apple Computer and Scholastic Software and runs on an Apple IIGS computer, allows participants to act as delegates to the Constitutional Convention of 1787.

Participants answer five questions dealing with issues raised at the Convention, such as "Should the President be elected directly by the people?" and "Should the Constitution prohibit slavery?" As each question is answered, the screen displays an imaginary delegate's diary entry exploring various facets of the issue.

At the end of the three-minute in-

teraction, the participant must decide whether he or she would have signed the Constitution. If yes, the participant uses the IIGS mouse to "sign" the document on screen.

The exhibit runs through the end of this year.

EDUCATIONAL SOFTWARE LIST AVAILABLE FOR ATARI COMPUTER USERS

A listing of more than 350 educational programs that will run on an 8-bit Atari computer is now available to educators as the result of a data base compilation of relevant commercial software. The printout lists the title, publisher, subject matter, and appropriate grade level for each program in the data base.

To receive a copy of the printout, send 50 cents and a self-addressed stamped envelope to William S. Brooks III, Naquag School, Rutland, MA 01543.

KIDS COMPETE USING "CREATIVITY, UNLIMITED"

You don't have to own *Creativity, Unlimited* for your students to enter a contest using it.

Sunburst Communications, publisher of the graphics software program, will loan *Creativity, Unlimited* to any school or Apple Computer Club for 90 days to give kids an opportunity to enter this contest, cosponsored by Sunburst and Apple Computer Clubs International. At the end of the 90-day period, the software may be returned or purchased at a special school price of $59 ($177 for the 10-disk Lab Pack), plus six percent shipping and handling.

To enter the contest, kids create designs, mazes, hidden pictures, or animations using *Creativity, Unlimited.* Entries must be accompanied by a Contest Entry Worksheet, and be postmarked no later than November 30, 1987.

Prize winners will be selected in two categories: grades 2 to 7, and 8 to 12. A winner in each receives an Apple IIGS computer system; runners-up receive $250 worth of software for their school or club.

For an entry kit, contest information and/or Apple Computer Clubs International membership information, contact: Apple Computer Clubs International, Att: Sunburst *Creativity, Unlimited* Contest, 175 Middlesex Turnpike, Bedford, MA 01730; 800/343-1425; in Massachusetts, 617/271-0400.

For a copy of *Creativity Unlimited* for the 90-day contest period, contact Sunburst Communications, Micro Customer Service, 39 Washington Ave., Pleasantville, NY 10570; 800/431-1934; in New York, 800/221-5912; in Canada, 800/247-6756; in Alaska, call collect 914/769-5030.

APPLE COMPUTER CLUBS INTERNATIONAL INDUCT FIRST HALL-OF-FAMERS

In conjunction with its International Merit Competition, Apple Computer Clubs International (ACCI) recently announced the opening of the ACCI Hall of Fame.

Each year two ACCI advisors who are actively involved in their community, have won an ACCI merit competition, and have "significantly contributed to computer education" will be selected as new inductees.

The first two inductees, announced this past summer, are Dr. Merle Marsh, academic dean at the Wooster Country School in Berlin, MD and Mim Bizic, a teacher at the Edgeworth Elementary School in Sewickely, PA. Both were also winners at ACCI's 1987 merit competition.

The grand prize winners at Competition '87 were students Susanna Gonzalez and Maria Hernandez of Tijerina Elementary School in Houston, TX and the Nixa Junior High Computer "Core" of Nixa, MO. The Tijerina students wrote a BASIC computer program to help teach English to Spanish-speaking students at their school. The Nixa Junior High Computer "Core" members created personalized emergency telephone directories for senior citizens in their area.

For more information about Apple Computer Clubs International, the ACCI Merit Competition, or the ACCI Hall of Fame, contact Apple Computer Clubs International, 175 Middlesex Turnpike, Bedford, MA 01730; 800/343-1425. ■

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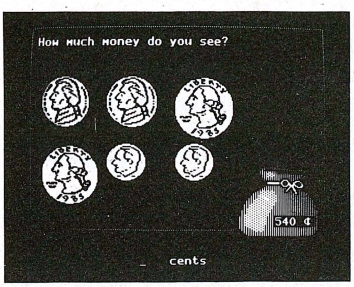

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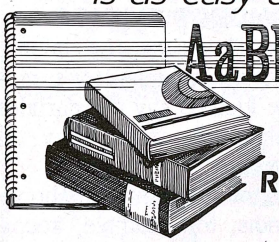

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CLASSROOM HAPPENINGS

WHAT'S HAPPENING IN COMPUTER CLASSROOMS

STUDENTS EXPLORE COMPUTER RELATED CAREERS

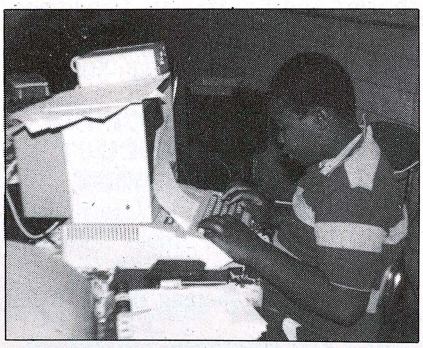
Scott Harrison's students at the Patrick Gavin Middle School in South Boston, Massachusetts, do more than *learn* about running a business. With Scott's help, the forty children in the school's pre-vocational program *are* running a business.

The students, sixth to ninth graders, have established a printing shop in their school store using (appropriately) *The Print Shop* (Broderbund). Teachers and other children at the school "hire" Scott's students to create classroom signs and banners highlighting special school events. The children then use a spreadsheet program, a data base, and a word processor to keep track of orders.

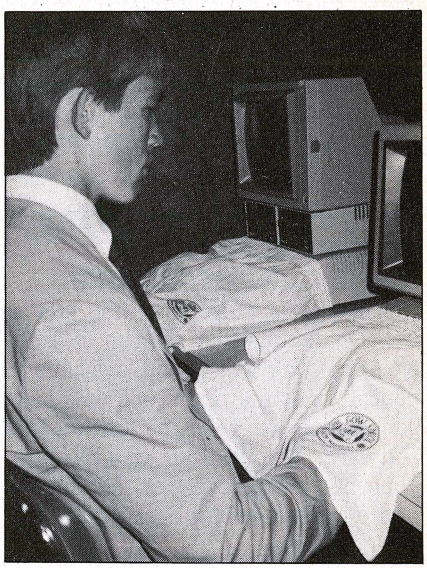
In addition to running the business, kids in Scott's pre-vocational program visit a different job site in their community every month. On one recent trip, for example, the children took a behind-the-scenes tour of Digital Computer Corporation.

"In computer lab my students learn to do minor repair work on the computers," says Scott. "This was the first time, though, that most of them actually saw a computer being soldered together."

The experiences, Scott believes, have interested many of his students in pursuing computer related careers.



A pre-vocational student in South Boston, Massachusetts, helps out in his school's print shop business.



A student at the Gow School for dyslexic boys in South Wales, New York, practices his typing skills.

KIDS SAY THE DARNDEST THINGS

Teachers all across the country can vouch for Art Linkletter's most famous line: kids *do* say the darndest things — especially when they talk about computers.

At the Fulton Elementary School in Fulton, Illinois, for example, second graders were asked to describe what it might feel like to be a computer. The activity developed after the children had spent a good portion of the school year helping their teacher, Nancy Thomas, take care of the computers in the school's library media center.

Kids in Wamego, Kansas, designed a bulletin board to accompany their study of computers in the year 2000.

"I think it would feel weird," wrote one little boy, "having all of those wires connected to you. Who would be the T.V. or the disk drive or the printer? Who would own the disks?"

A little girl named Amy wrote that she thought "being pushed on" all day might be difficult, but worth it "because then I could help kids with their spelling and math."

In a similar project, fourth to sixth graders at the Special Services Cooperative of Wamego, Kansas, studied what computers may be like in the year 2000. These children then wrote down their own ideas about computers of the future. Here, in part, is what the children had to say:

- "Computers will be able to look at your homework and just do it."
- "They will be able to talk. They will have brains and a very high I.Q."
- "They will be like R2D2 and 3CPO."
- "They will be able to walk, talk, eat, run and swim — just like humans."

A "SHORT"-CUT TO KEYBOARDING SKILLS

At the Gow School in South Wales, New York, the computers "wear" gym shorts as the boys there learn how to type.

"Originally," says computer teacher Mike Holland, "we taped 8½″ x 11″ sheets of paper over the keyboards so that the boys could not look at their fingers. Then I came up with this idea and asked the kids to each bring a pair of gym shorts to class.

"Of course," he quickly adds, "I didn't penalize anyone, if they preferred not to!"

Gow, the nation's oldest preparatory school for dyslexic boys, has only had computers on campus now for two years. "When we first introduced them," says Headmaster David Gow, "we wondered whether we weren't burdening the boys by asking them to learn the keyboard. But," he continues "we have no regrets. In fact, beginning in September, Computer Literacy becomes a requirement at Gow."

To learn more about the school and its program for dyslexic boys, contact David Gow, Headmaster, The Gow School, South Wales, NY 14139.

If you suspect that a student of yours may be dyslexic, a new com-

puter program, soon to be on the market, may be able to help you diagnose the problem. For information on the program, which has even been used to test pre-readers, contact Dr. George Pavlidis, Department of Pediatrics, UNDNJ-Robert Wood Johnson Medical School, Piscataway, NJ 08854.

COMPUTER PEN PALS

Because of a computer, 10-year-old Maurice Bonilla of P.S. 64 in Ozone Park, New York, can now call his formerly nameless pet gerbils "Spunky" and "Jim." The names were supplied to Maurice by his computer pen pal, Linus Joseph, of P.S. 215 in Far Rockaway, less than an hour's drive away.

The year-long pen pal project between Maurice and Linus' fourth grade classes began when district computer coordinator Sandy Cooper suggested the idea to their teachers. The kids, however, got the project off the ground.

"The first thing that they decided," says Irene Levy, fourth grade teacher at P.S. 215, "was that if they were going to have pen pals, they should have pen pals with interests similar to their own."

So students at P.S. 215 created a data base of their hobbies, pets, favorite sports, television programs, and school subjects. The disk was then sent to P.S. 64, where each of Barbara Dubler's fourth graders read through the data records and selected someone to correspond with.

At first the students communicated by mail, writing their letters with Scholastic's *Bank Street Writer*. As the project progressed, however, the kids were granted minimal access to their schools' modems and the district's electronic bulletin board. In groups of three or four, the students were allowed to log on in their school's main office to send such brief messages as "Yes, I do have a dog. His name is Fluffy" or "Last week we went on a trip to the Bronx Zoo." If there were any incoming messages at the computer, the kids printed them out and carried them back to the classroom for everyone to see.

"Our access to the modem was limited," Irene explains. "We only used it to demonstrate how messages are sent by computer."

At the culmination of the project in the spring, the pen pals came face-to-face. For so long the kids had been writing "I would really love to meet you," and "Maybe some time you can come over to my house," that the two teachers involved decided that the classes *should* meet at least once by the end of the school year. Before they knew it, the P.S. 215 kids were on a bus to P.S. 64 for a half-day class trip.

"When we pulled up to the school, the class was outside waiting to meet us," Irene recalls. "They took us into the lunchroom where tables of cookies and punch had been set up. Some pen pals recognized each other from photographs. Others called out their pen pals' names. All the children wanted to sit with their pen pals while they ate."

Later, the kids all trooped into Barbara Dubler's classroom to work at a computer connected to a 25-inch television monitor.

As their classmates watched, each pair of computer pen pals approached the keyboard together and typed in messages for the rest of the group to read. "It's been fun to see you. So glad that I came," wrote one student. "Bill, I thought that you would look taller. Do I look the way you imagined I would?" asked another.

For Irene, it was the best trip she had ever taken with a class.

BE A REPORTER!

Come on, teachers of art and music. We know you're out there! What exciting computer project has *your* class been working on lately? We'd like to tell our readers about it in this column.

Send a brief description of your project along with any photos you can spare. We'll pay $25 to $50 if we publish your story. Write: "Classroom Happenings," *Teaching and Computers*, 730 Broadway, New York, NY 10003. ■

BY JACKIE GLASTHAL

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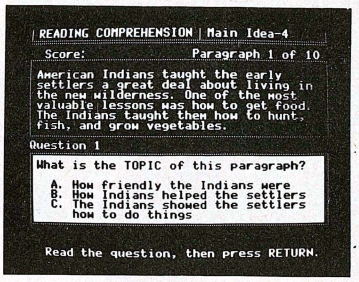

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MICRO IDEAS

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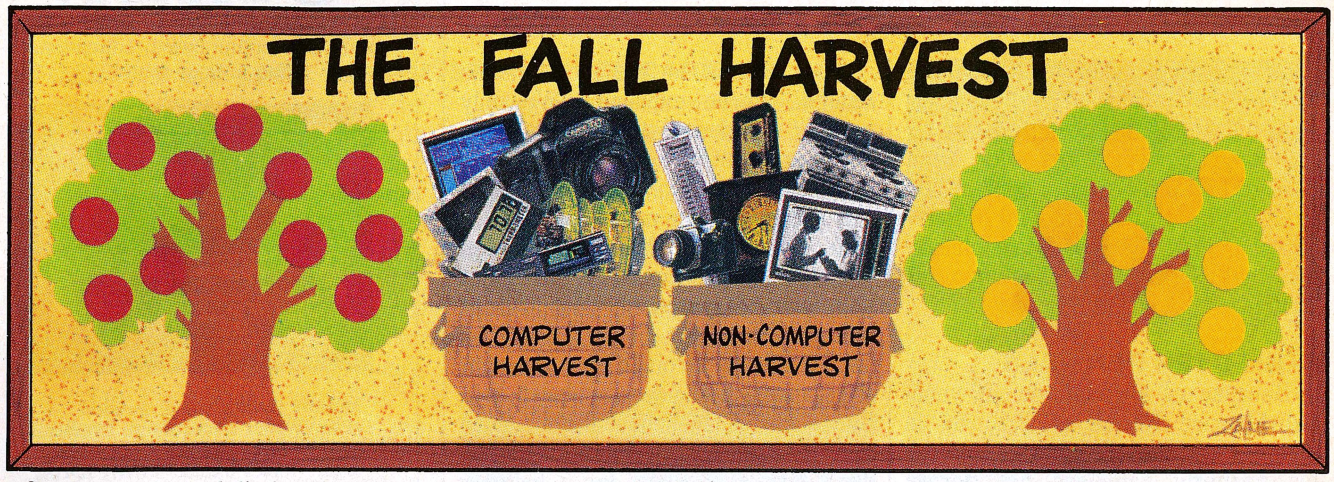


Create an autumnal display of computer and non-computer related objects.

"FALL HARVEST" BULLETIN BOARD

Here's a seasonal bulletin board idea that helps students distinguish among real world items that are, and are not, computer related.

To make the bulletin board, cut two slender tree shapes from brown construction paper. Add green construction paper leaves, then have students cut out apple shapes from two different colors of paper (red and yellow, for instance). Staple the apples to the bulletin board's trees as shown, and use cut out letters to make a sign that reads "The Fall Harvest." Post the sign near the top of the bulletin board display.

Cut out two large basket shapes from sheets of light brown construction paper. Position these on the "ground," between the paper trees. On one basket print the words "Computer Harvest." On the other print "Non-Computer Harvest."

Now hold a discussion with students about items that are, and are not, computer related. For each non-computer related item, see if students can come up with a computer related counterpart. (*For example, an oven is not computer related, but a microwave oven is; a piano keyboard is not computer related, but a music synthesizer is.*) Keep a list on the chalkboard of the items that students suggest.

Next, challenge the children to provide pictures of computer and non-computer related items to fill the two baskets on the bulletin board. Have students draw the pictures themselves, or cut them out of old magazines.

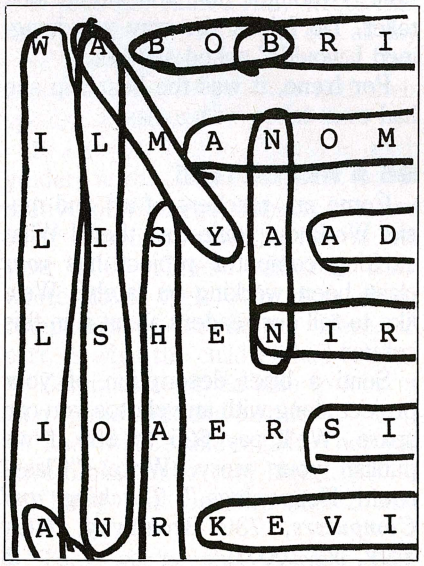
When each child has a picture, have kids take turns describing it to the class without saying what the picture is of. Can others guess? Which basket does each item belong in? Stretch this "guess and tell" game out over several days until each child has had a chance to pin an item into one of the two baskets.

Thomas E. Boudrot
Austin, TX

CREATE A WORD SEARCH PUZZLE OF NAMES

At the beginning of the school year, it's important for kids to get to know one another as quickly as possible. Word search puzzles made up of their names can speed up the process. Commercial software such as *Word Search* (Hartley) and *Wordzzzearch* (Mindplay) can create puzzles of this type, using your input. Or, you can start from scratch using a word processing program and the enlargement setting on a copy machine.

If you use a word processor to create your word search puzzle, plan it out on graph paper first. Decide whether you want to use students' complete names, or first names only. Then start placing names randomly on the graph paper. Begin with long names, and work your way to the shorter ones. Place some names forward, others backward, diagonally, across, or down the page. Wherever possible, position names so that they intersect one another at a letter common to both. Randomly select letters to fill any blank spaces that remain when you are done.



Let your computer help you devise a word search puzzle of student names.

Type each line of the word search puzzle into the computer, using your word processing program. Press RETURN after each line. Then print out the puzzle and enlarge it on a copy machine.

Kids love looking for their names in this type of puzzle, and it's a great first-day ice breaker.

Patricia Macdonald
Tonawanda, NY

Ron Zalme

MICRO IDEAS

A RETURN-ALL-DISKS-HERE SHOEBOX

In a busy computer lab, there is not always time to correctly file software away at the end of class, or even in the minutes before the next bell rings. To prevent end-of-class chaos, we now keep a shoebox labeled "Return All Disks Here."

When a student is done with a piece of software, he or she returns it to its dust jacket, and then places it in the shoebox. The job of filing the software back in its proper place is reserved for students who finish their classwork before others.

Steven Lavorgna
Wayne, NJ

COMPUTERIZED TEXTBOOK COVERS

If your students have access to a printer, they can use it — along with Logo, BASIC, a word processor, or a graphic arts software program such as *Print Shop* (Broderbund) or *Stickybear Drawing* (Weekly Reader Software) — to create original back-to-school textbook covers. With average size computer paper, these book covers work best on books no larger than 6½" wide x 9½" long.

Have students create a design on the computer using the software program selected. Print out each design twice, and have students use crayons or colored markers to decorate their work. Each child should also write his or her name, school, and teacher's name on one of the two sheets of paper where it can easily be seen.

Tear off the hole strips along the edges of the computer paper, and tape the two sheets together, side by side. (One sheet of printout paper, held horizontally, works fine if you are covering a small paperback book.) Attach the computer-generated book covers to books the same way you would any store-bought book cover.

Kathleen McCaul
Yorba Linda, CA

SOME UN-SHOCKING NEWS ABOUT PLANTS AND COMPUTERS

Ever since some plants were donated to our school's computer lab not long ago, the amount of static electricity in the lab has been sharply reduced. The reason, we suspect, is the added moisture in the air. At any rate, the discovery is a nice one — and anything but "shocking."

Patricia Macdonald
Tonawanda, NY

Icons help pre-readers program their computers "like the big kids."

COMPUTER COMMAND CHARTS FOR PRE-READERS

By using an icon chart of BASIC commands, like the one above, I now have my pre-readers completing simple programming tasks on their own. The kids are thrilled at using the computer "the same way that the big kids do," and the chart has increased the list of words that these young learners can sight-read.

Martha J. Tompkins
Virginia Beach, VA

SEND US YOUR MICRO IDEAS

Do you have computer activities, bulletin board ideas, or management tips you'd like to share? Send them to "Micro Ideas," *Teaching and Computers*, 730 Broadway, New York, NY 10003. We'll pay $15 to $30 for each idea we publish.

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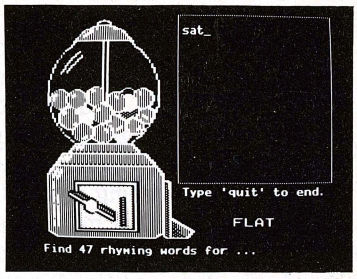

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THE THINK TANK

TASK CARDS THAT TEACH THINKING SKILLS

The First Key: Memory

Each month, this column provides four student activity cards for sharpening problem solving skills. A different problem solving strategy is emphasized each month. This month's focus is on memory. Keyboarding is also taught, as students learn to memorize locations of keys on the computer keyboard.

WHAT IS PROBLEM SOLVING?

Simply stated, problem solving is the process used to complete a task or resolve a situation. Often, the process draws on past experience. For example, if you wear eyeglasses and tend to lose them (as I do!), you probably begin a search for a pair of lost glasses in places where the glasses have turned up before. While past experience cannot be taught, the problem solving strategies that work alongside past experience can be.

STARTING WITH MEMORY AND OBSERVATION

According to many educators, observation and memory form the core of problem solving skills.

Think about the last time you saw students study for a spelling test. Some worked with flash cards. Others selected cloze exercises out of a textbook. Still others chose to study "out loud," in pairs or groups. Like adults, children use many strategies to remember details. The more memory strategies a student has at hand, the better equipped he or she will be for problem solving situations that arise.

The specific memory strategies emphasized in this set of task cards are as follows:

- Repetition.
- Multi-sensory pairing *(pairing visual, auditory, and tactile clues to help one remember details more effectively).*
- Visual association *(associating a detail with a totally unrelated visual symbol).*
- Sequencing *(learning details in a specific order, such as alphabetically or chronologically).*
- Creating a context *(creating a story or situation composed of the elements one wishes to retain).*
- Self- and group testing.

PREPARATION

1. Punch out the task cards on the next page.
2. Decide whether you will have students use a word processing program, the Logo text editor, or the BASIC program below to complete the keyboarding exercises on the task cards.
3. If you use the BASIC program, enter and save the program on a diskette under the file name TYPE.
4. Be sure that you have paper and crayons or colored markers on hand. Students will need these to complete the activities on Task Card 4.

BASIC OPTION

For Apple II series:

```
10 HOME
20 GET A$
30 PRINT A$;
40 GOTO 20
50 END
```

For IBM and Tandy TRS 80:

```
10 CLS
20 A$=INKEY$:IF A$=" "THEN 20
30 PRINT A$;
40 GOTO 20
50 END
```

PRE-TASK CARD ACTIVITIES

- Have students list things that people commonly memorize. *(Examples include phone numbers, addresses, the multiplication table, vocabulary lists, names, and grocery lists.)*
- Ask students to describe some techniques that they personally use to memorize. Which work well? Which do not?
- Demonstrate correct finger positioning on the computer keyboard. Tell students that their goal throughout this set of activities will be to memorize the location of each key on the computer keyboard.
- Review the steps on each task card before having children complete the activities on their own.

TASK CARD ACTIVITIES

Task Card 1. Children type each home row key a number of times. Each letter is visually associated with an animal. Multi-sensory pairing is also used.

Task Card 2. Children repeatedly type each key on the QWERTY, or "Uptown" row of the keyboard. Students then test themselves and each other.

Task Card 3. Students use repetition, multi-sensory pairing, and some sequencing to remember home row and bottom row keys that are struck by the same finger.

Task Card 4. Students create a context in which to remember the key locations. Sequencing is also used.

POST TASK CARD ACTIVITIES

- Discuss the methods that were used to memorize the keyboard. Which ones worked best? Was everyone comfortable with the same methods, or did each individual have his or her own preference?
- Have students suggest and try out alternative methods for memorizing the keyboard. Which memory techniques do these new suggestions fall under? How well do they work?
- Challenge students to write down, without looking at the task cards, the animal associated with each letter, from A to Z.
- Challenge students to type the alphabet at the computer keyboard, using correct fingering, and saying the name of each animal as they type each letter. How many can do all 26 letters without looking at the keyboard or the task cards?
- Have students make up a story that includes all 30 animals in the keyboard "neighborhood" (including the semi-colon, period, and comma and slash). ■

Thomas E. Boudrot, author of *Byte-Sized Activities: The Generic Word Processing Book*, is an education specialist for the Division of Educational Technology, Texas Education Agency, Austin, TX.

MEMORY 1 TASK CARD

Home Row Zoo

1. Read each animal's name below. The animals on the left live on Left Lane. The ones on the right live on Right Road. They all live in the middle, or home row, of your computer keyboard.
2. Place your fingers correctly on the hon row keys of your computer keyboard.
3. Type the letter that each animal's name b gins with three times. (Read *angry ape* thr times; press the *a* key three times. . .and on.) Picture each animal as you press down t key where it lives.
4. Now type each letter as many times as that animal has syllables in its name. (Read *an-gry-ape;* type *a a a.*)

Type each line below without looking at the

(Left Lane)

The H

angry ape

silly skunk

dancing donkey

fancy fox

grouchy

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MEMORY 3 TASK CARD

Destinc

Complete Task Card 2 before you try the ties on this card.

1. Read each animal's name below. So these animals live on land, underground, water. Others are not real animals! All of though, live "Downtown," one row belc home row keys.
2. Place your fingers correctly on the home row keys.
3. Picture each animal as you type the letter that the animal's name begins with three times.

mal. Without looking at the keyboard, type the key that belongs to that animal *and* the key below it. Say the names of both keys out loud. Return your fingers to the home row each time.

(Left Lane)

Destination: Downtown

(Right Road)

zany zebra fish

"x"citing "x"traterrestrial

crazy catfish

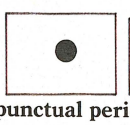
venomous viper

bearded badger

nervous newt

merry mole

,commonplace comma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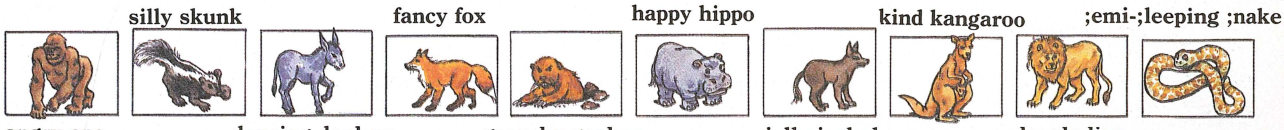
2. Place your fingers correctly on the home row keys of your computer keyboard.
3. Type the letter that each animal's name begins with three times. (Read *angry ape* three times; press the *a* key three times. . .and so on.) Picture each animal as you press down the key where it lives.
4. Now type each letter as many times as that animal has syllables in its name. (Read *an-gry-ape;* type *a a a.*)
5. Type each line below without looking at the keyboard. Press RETURN after each line. Are your fingers still sitting on the home row keys?

Line 1: a s d f g h j k l ;
Line 2: a ; s l d k f j g h
Line 3: g j a d ; s f l h k

(Left Lane) **The Home Row Zoo** (Right Road)



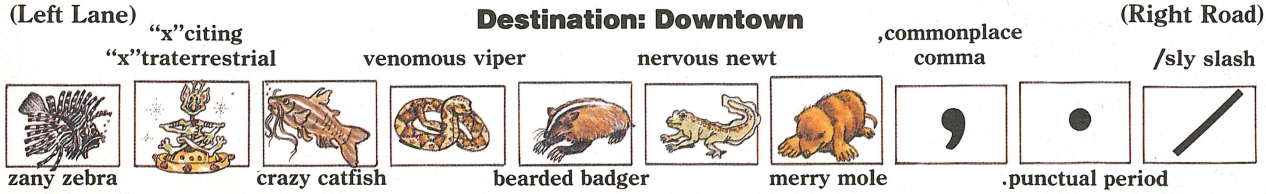
MEMORY 3 TASK CARD

Destination: Downtown

Complete Task Card 2 before you try the activities on this card.

1. Read each animal's name below. Some of these animals live on land, underground, or in water. Others are not real animals! All of them, though, live "Downtown," one row below the home row keys.
2. Place your fingers correctly on the home row keys.
3. Picture each animal as you type the letter that the animal's name begins with three times. (Read *zany zebra fish* three times; press the *z* key three times. . .and so on.)
4. Type each letter as many times as that animal has syllables in its name. (Read *za-ny-ze-bra-fish;* type *z z z z z.*)
5. Take a trip through your keyboard neighborhood! Have a classmate name a home row animal. Without looking at the keyboard, type the key that belongs to that animal *and* the key below it. Say the names of both keys out loud. Return your fingers to the home row each time.

(Left Lane) **Destination: Downtown** (Right Road)



MEMORY 2 TASK CARD

Uptown Animals

Complete Task Card 1 before you try the activities on this card.

1. Read each animal's name below. These animals all live in the air or in the mountains. They also all live "Uptown," one row above the home row keys.

2. Place your fingers correctly on the home row keys of your computer keyboard.

3. Picture each animal as you type the letter that the animal's name begins with three times. (Read *quick quail* three times; type the *q* key three times. . .and so on.) Use correct fingering, and always return your fingers to the home row keys.

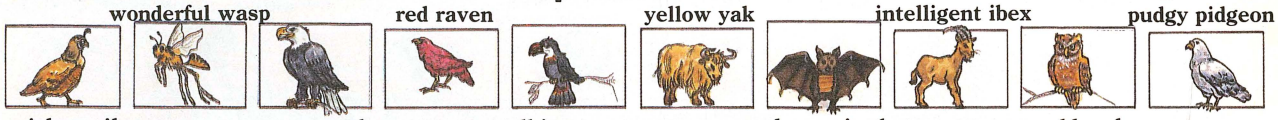
4. Type each letter as many times as that animal has syllables in its name. (Read *quick-quail;* type *q q.*)

5. Close your eyes and type any five Uptown keys. Which ones did you press? Open your eyes and see if you were right.

6. Now have a classmate quiz you. Have your partner name three Uptown animals. Type the keys that these animals live on — without peeking at the keyboard.

Uptown Animals

(Left Lane) (Right Road)



MEMORY 4 TASK CARD

Make a Memory

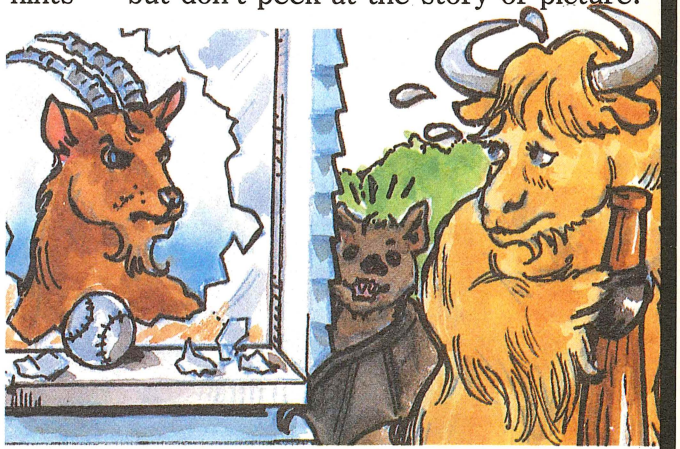
Complete Task Card 3 before you try the activities on this card.

1. Stories can help you remember details! Try it! First, pick a "street" from one of the first three activity cards. (For example: Downtown, Left Lane; or Uptown, Right Road.) Make up a story about the animals that live there. Here's one about Uptown, Right Road:

A yellow yak named Yolanda borrowed a bat and ball from her neighbor Ulroy, the ugly umpire bat. By accident, Yolanda hit the ball through the window of the intelligent ibex, Isaac, who lived next door to Ulroy. Boy, was he mad!

2. Use crayons or colored markers to draw a picture illustrating your story.

3. Share your picture and story with a classmate. Then hide both. How well was your classmate listening to you? Can he or she retell your tale, using only the keys on the computer keyboard as helpers? If necessary, give a few hints — but don't peek at the story or picture!



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SAVINGS ON SOFTWARE
CONTESTS
WIN COMPUTERS SOFTWARE
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The Learning Company
Learning Technologies
Mindscape, Inc.
Software Publishers Association
Join the celebration!
Across the nation, schools, teachers, students and parents are celebrating computers and education all through the month of October. Check with your school, and join in the fun! You'll discover special events, prizes, and opportunities to experience first hand the excitement of computer learning.
A Congressional Resolution.
Computer Learning Month has even gained the support of our nation's leaders. The U.S. Senate quickly declared October 1987 as Computer Learning Month. By the time you read this, we expect the House of Representatives to have passed a similar resolution.
Computer Learning Month Contest!
Fun to enter. Easy to win.
You don't even have to have a computer! Write an essay (750 words or less). Create an original work of art. Also special project entries for teachers and groups of all kinds.
For official contest entry materials, mail the coupon.
Over $100,000 in prizes.
When you win, your school wins, too!
FIRST PRIZES for each category will be computer workstations, complete with printers—one for the winner and one for the winner's school. Thirty computer workstations in all.
SECOND PRIZES for each category are multiple program software packages—one for the winner and one for the winner's school. Thirty multiple program software packages in all.
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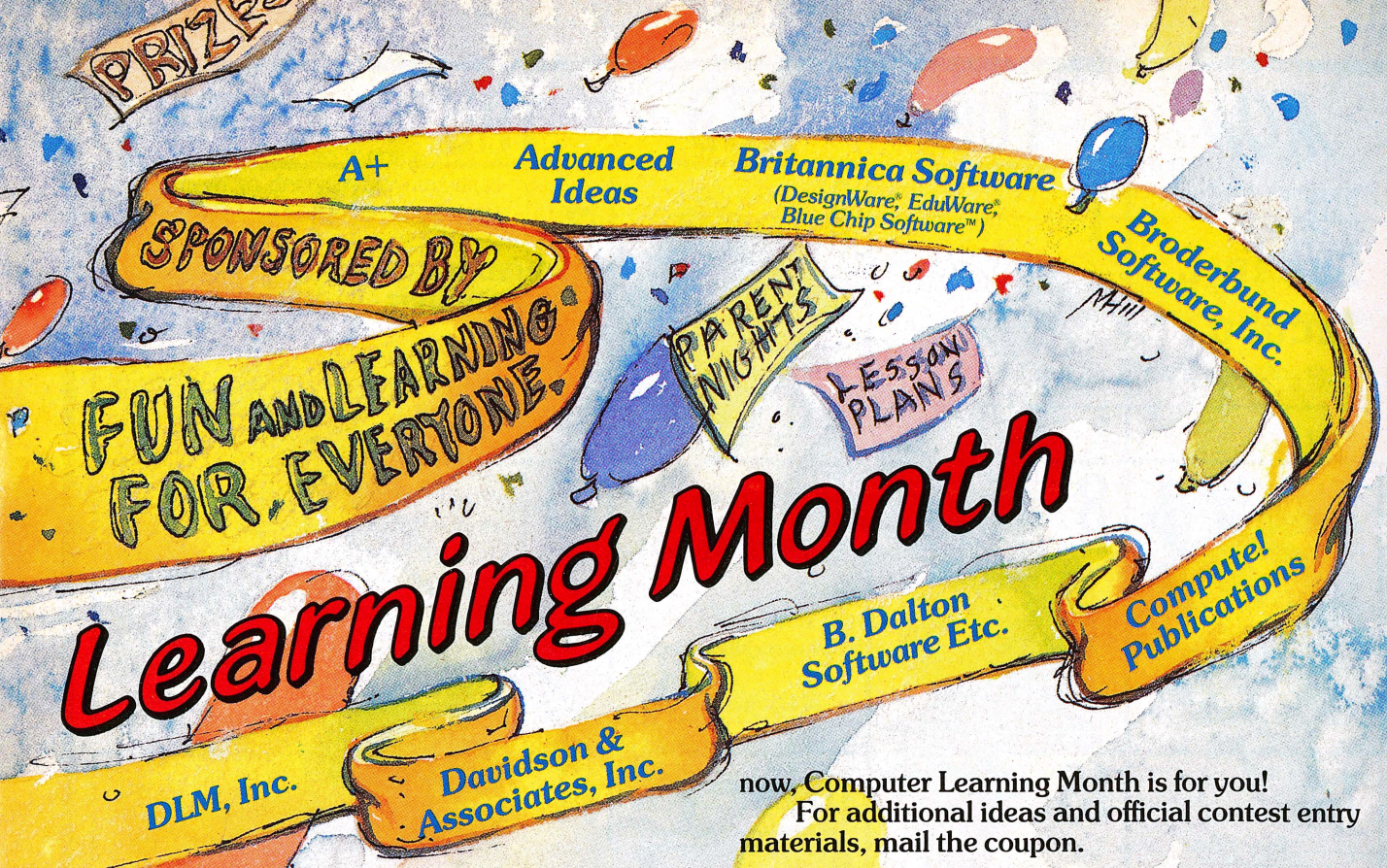

now, Computer Learning Month is for you!

For additional ideas and official contest entry materials, mail the coupon.

15 ways to enter:

	grades K-5	grades 6-9	grades 10-12
Art contest (computer generated)	■ ■	■ ■	■ ■
Art contest (non-computer generated)	■ ■	■ ■	■ ■
Essay contest	■ ■	■ ■	■ ■
Teacher (lesson ideas)	■ ■	■ ■	■ ■
Group contest	■ ■	■ ■	■ ■

■ = individual prizes ■ = school prizes

For official contest rules, art and essay ideas and suggested topics, mail in the coupon below no later than September 15, 1987. Contest entries must be postmarked no later than October 20, 1987.

FREE for parents:
Special booklet, "What every parent should know about educational computing." Packed with information on computer learning, ways you can help, ideas and resources. Free—from participating software retailers in your area.

FREE for teachers:
Special Computer Learning Month posters bound into October issues of *Classroom Computer Learning, Electronic Learning, Teaching & Computers* and *Today's Catholic Teacher.* Posters are ideal for classroom use, and they're filled with lesson plans and activities on the back. Even if you're not using computers in your classroom

BIG savings. Special events. Fairs and parents' nights during October.
Look for special discount prices on educational software at participating retailers, special events and computer fairs. If your school has a computer lab, parents' nights offer a good opportunity to try computer learning first hand, and local retailers are likely to be on hand for demonstrations. Or sponsor a computer walk-a-thon to raise money for computers and software for your school.

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I own a computer ☐ yes _____ (type of computer) ☐ no

Name _____

School _____

Address _____

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BACK-TO-SCHOOL BREAKTHROUGHS

From seating charts to gradebooks, the computer makes organizing your classroom a snap!

If you were asked to write an essay on "How I Spent My Summer Vacation," you'd undoubtedly devote at least a page or two to "What I Did to Get Ready for the New School Year." But back-to-school chores need not cut your summer short — nor cut into valuable instructional preparation time. With the help of your computer, you can breeze into the new year ready for what you do best: teaching!

To help you get started this year, *Teaching and Computers* has put together a checklist of tasks that many teachers face when getting ready for the new year (see box, page 17), along with some great ideas for

Bill Silbert

streamlining these tasks with your computer. The ideas include everything from setting up a grade reporting system to decorating your classroom — all with the help of your computer.

So, are you ready to go back to school? The first place to start is that empty classroom.

Editor's Note: Many of the time-savers described below involve familiar tool software: word processors, data base managers, and spreadsheets. You can use your favorite stand-alone programs, or try an integrated package, such as *Appleworks,* that allows you to transfer data among programs (from data base to word processor to create personalized form letters, for example). Where a more specialized kind of software is needed, we've provided several examples. (Check page 29 for publisher and price information.)

CLASSROOM SET UP

Before the first student walks through your door, there is plenty to do to get your classroom ready. Here are some ways that the computer can help.

● **Set up an inventory control chart.** The computer can't move the desks into place, but it can help keep track of all the furniture and equipment that's allotted to you (making it easier to return at the end of the year). Put together a simple inventory chart with your word processor or a spreadsheet program; your headings might include *Item, Number Allotted, Number Added/Returned,* and *End of Year Balance.* You can also find inventory templates in a package like *SchoolWorks,* which provides a number of classroom management formats using *Appleworks* integrated utility software.

● **Create a seating chart.** This can be done with your word processor, setting tab stops for each row or furniture cluster in your classroom, or with a spreadsheet (see illustration, page 18). Fill the chart in later with student names.

● **Order texts, supplies, audio-visual, and computer materials.** Consider recreating the necessary order forms on your word processor. Not only will you be able to make quick work of ordering supplies, texts, and equipment, you'll have a complete record of what you've used during the year.

BACK-TO-SCHOOL "TO DO" LIST

Getting ready for September involves a whole host of organizational tasks. Here are a few that your computer can help you tackle.

Classroom Set Up

- *Set up classroom furniture and create seating charts.*
- *Order texts, supplies, audio-visual and computer materials.*
- *Put up back-to-school bulletin boards and decorations.*

Information About Students

- *Set up student information files.*
- *Create preliminary class roster.*
- *Assign reading and math groups.*

Lesson Plans and Gradebooks

- *Decide on lesson plan format.*
- *Write lesson plans for first week.*
- *Set up gradebook.*

Information For Students

- *Write out classroom policies.*
- *Make up calendar of holidays and schoolwide events.*

Home/School Connection

- *Set up homework system.*
- *Streamline parent communications.*
- *Plan for parents' open house.*

MAKING *YOUR* LIST

Instead of pencil and paper, try using your word processor or an "idea processing" outline program, such as *First Draft* or *Thinking Cap,* to make your "to do" list on computer. Revise and print your list as often as necessary, but be sure to save the most complete, updated version on disk. That way you won't have to start from scratch *next* August.

● **Decorate your classroom.** Graphics software like *The Print Shop* makes creativity easy. You might start with a banner proclaiming "Welcome Back." Add an 8½" X 11" name tag to place on the front of each desk, to help kids find their seats and help you match names to faces during the first days of the new year. You can also bring your bulletin boards to life with pictures and letters designed with the same software. With a little training, your students will enthusiastically handle this chore for you once the school year begins.

INFORMATION ABOUT STUDENTS

Who's who in your classroom? The computer can help put the essential information at your fingertips.

● **Set up student information files.** A computerized data base will store needed information on each individual student and help you sort the whole group a number of different ways. Within the limits of your particular data management program, the student data record can be designed to contain many different information fields. At a minimum, you'll want to include student names (set up so they can be sorted alphabetically), addresses, parent names, and parents' daytime phone numbers. Additional fields might include birthdate, computer system password, special skills, and so on. Some data base-using teachers suggest naming an "extra" field or two (you could call them "Other" or "Code") for future use.

The hardest part about any data base is data entry — the tedious typing of information into all those fields. (You might even decide to have kids do most of this work themselves, as one teacher reports he did in "Data Base Solutions" on page 19.) But once the data has been correctly entered and stored, it's there for good.

● **Create a preliminary class roster.** You can use your student information data base to make up preliminary class lists by sorting and listing your data records alphabetically. As the year goes on, you'll be able to reprint the list as you add and delete student records.

Not ready yet for a data base? Then use your word processor to create a class roster. You'll still be able to add, delete, and rearrange names as often as necessary, and can copy the file to rework for different uses.

● **Assign reading and math groups.** Include fields for these in your data base design, or use your extra fields to note the groups to which each student is assigned. You can then sort, print out a roster for each group, and reassign as needed.

If you'd rather go the word processing route, call up the class roster file and use your MOVE function to arrange the student names into groups. Save these new lists under new file names.

LESSON PLANS AND GRADEBOOKS

The business world has already discovered that computers make quick work of detailed planning and recordkeeping. Here's how to translate that technology into teaching terms.

- **Decide on lesson plan format.** With your word processor, you can design a lesson plan template to suit your individual preferences, an occasional substitute's needs, and your district's requirements (see sample, below). Or you can use the stock templates provided by programs like *SchoolWorks/Teacher Version* and *The Lesson Planner.*
- **Write lesson plans for the first week.** Load your chosen lesson plan template and fill in textbook page numbers, objectives, and activities. The computer makes it easy to adjust plans as the school year progresses. Just keep notes on your printed copy and transfer them to the computer when time permits. If you teach the same grade or same subject next year, you'll be especially glad to have these annotated printouts and your disk of weekly lesson plans.
- **Set up your gradebook.** Computerized gradebooks such as *Gradebook Deluxe* and *The J&S Grade Book* can take about the same time to set up as traditional methods (although most allow for quick one-step replicating of class lists for different subject areas). You'll really notice the difference, though, when it comes time to close out your grades. In most cases, just pressing a few keys will give you all of your grades for a class in a subject area. One newer program designed for elementary teachers, *Compute A Grade,* even allows you to print out all the grades in your book for a single student. Either way, you will no longer have to sit with the calculator, figuring. Utilizing the computer's efficiency at "number crunching" will give you more time for other things.

Week of September --, 1987 LESSON PLANS Room 65-Ms. Loew

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Reading 8:45-10 am RED BLUE GREEN ORANGE					
Math 10-10:45 am					
Science 10:45-11:15 am					
Varied 11:15-12 noon	MUSIC Free	PHYS ED Free	COMPUTER Free	PHYS ED Free	ART Free
Lunch 12-1 pm					
Language 1-1:45 pm					
Social Studies 1:45-2:30 pm					

TEXTBOOKS-WORKBOOKS USED:
Red Reading Group- Fill in titles
Blue Reading Group-
Green Reading Group-
Orange Reading Group-
Math-
Science-
Language-
Spelling-
Social Studies-

With a lesson plan template (above) and your word processing program, it's simple to update and adjust your plans as the school year progresses.

SEATING CHART
Big Springs Elementary - Ms. Loew - Room 51

Back of Room

	Jeffrey Bender	Chris Wheelock		
6				
Joe Sobiero			Kenny Rommulos	Jason Botsworth
5				
Heather Finch	Joan Jackson	Ariadne McCollum	Lee Green	Leslie Smathers
4				
Brian Kingman	Kirsten Christopher	Jamie Palmeri	Ellen Epstein	Jose Figeroa
3				
Heather Smith	Jennifer Reed	Adam Blackwell	April Rosetta	Stephanie Kraemer
2				
John Miller	Sandy Simmons	Jason Johns	Joshua Barnes	Kristin Cole
1				

Front of Room

<----------Blackboards---------->

Use your spreadsheet program to make up an easy-to-read, flexible seating plan.

INFORMATION FOR STUDENTS

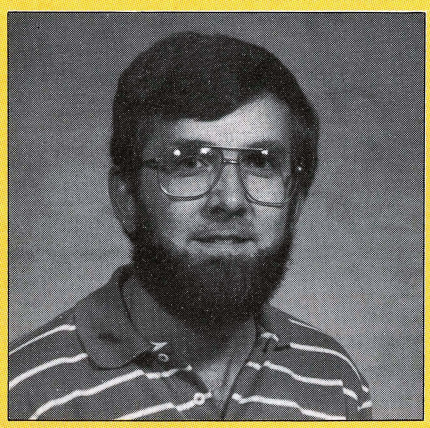
For your students, the new year most likely means adapting to a whole new environment: *your* classroom. Information can help ease the transition.

- **Write out classroom rules and policies.** Send a clear message to your students about what's expected of them. Use your word processor or a program like *Pagemaker* or *The Newsroom* to lay out the rules regarding homework, absences, classroom behavior, field trips, special events, and so on. If you're working with very young children or those whose reading ability is otherwise limited, use a program like *Create With Garfield* to translate your rules to cartoon form.
- **Set up a class calendar.** A simple monthly calendar template will help you plan ahead *and* keep your students informed. You can create your own templates using a spreadsheet or word processing program, or you can take advantage of a software package like *Print Shop Companion* to produce a snappy, illustrated calendar in minutes. Before school starts, fill in major holidays and vacation times for each month, along with tests, trips, and other school and class events you know in advance. Once you've established a routine with your classes, you can add stu-

(continued)

Data Base Solutions

Next to a word processor, a data base management program is one of the most useful application programs at any teacher's disposal. *Teaching and Computers* asked some elementary school educators how they use their data managment programs. Here's what they told us.



NORM HOLCOMB

Computer instructor, Marion Local School, New Bremen, OH

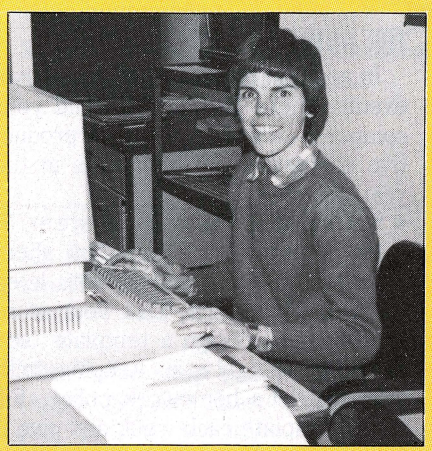
OUR SCHOOL CREATED A STUdent information data base — and the students did virtually all the data entry themselves. Each child was provided a blank record form to take home to his or her parents (see below). When the forms were completed, the third to eighth graders used them to type in their own data records on the computer; the first and second graders had the help of an eighth grader, but they too did most of the typing themselves. We then sorted the file and provided each teacher with his or her own classroom data base. The kids' exposure to the computer as a tool was its own reward — with the side benefit of saving their teachers many hours of work.

PLEASE PRINT
Name - _____
First Last
Address _____
_____
_____
City State Zip
( )
Phone
Birthday - ___ - ___ - ___
Month Day Year
Age ___
_____ _____
Father's First Name Mother's First Name

FRANCES K. MORSE

Computer instructor for grades four through eight, Edward Devotion School, Brookline, MA

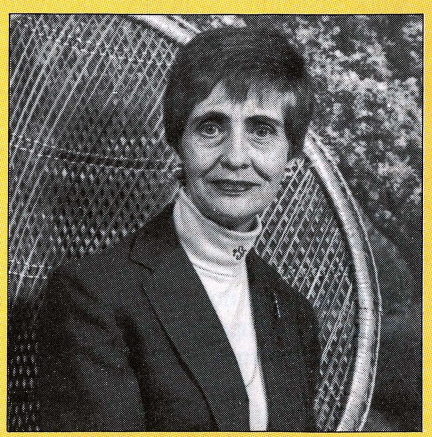
I USED MY DATA BASE TO ORganize a field trip for 80 students to the Computer Museum in Boston. First I copied my "basic" seventh grade data base, then added a field to keep track of who'd paid and who hadn't. I used another field to experiment with group assignments, evening out the size of the groups and "playing around" with group assignments to make sure that the troublemakers were all in different groups. I made printouts of groups and adjusted assignments as needed.



THELMA SCOTT

Coordinator, Apple Classroom of Tomorrow, Lester Demonstration School, Memphis, TN

TO PARAPHRASE ROBERT Burns: "The best laid schemes of mice, men, and computer-using teachers go oft astray." Our teachers have developed a data base to record their lesson plans by date, subject, software title — even curriculum objective code (see sample, below). When a lesson is extended, for example, to provide more drill and practice, all the teacher has to do is make a few changes in pertinent data records (including adding records for additional days). The data base can then be resorted and an update printed out for use in the classroom and in reports to the administration.



```
SUBJECT: READING 4
DATE: May 11 87
OBJECTIVE: CAUSE AND EFFECT
CORRELATION: BSF 42135
TLW: COMPLETE WS RUNNING FREE 78 AS TEST
SOFTWARE: VOWELS 11, MISSING LINKS
MATERIALS: DITTO, SOFTWARE
EVALUATION: 80% DITTO
HOMEWORK:
```

A lesson plan data base helps teachers at the Lester Demonstration School keep track of dates, objectives, and textbook and software correlations.

dent birthdays, quiz dates, project start-up and deadline dates, and "housekeeping" tasks like lunch money collection. As each month's plan is finalized, print it out and photocopy it for each student to add his or her own notes. Send a copy home to parents, with a note highlighting those events and assignments that merit special attention.

THE HOME/SCHOOL CONNECTION

In addition to a monthly calendar of events, there is much you and your computer can do to assure a productive partnership with parents in the year ahead.

- **Set up a homework system.** A weekly homework assignment sheet will help students *and* parents keep track of what's due. Use your word processor to design a template (see example, at right) in keeping with your district's homework policy. Fill in the template each week and give it to your students to keep in their notebooks, checking off each assignment as it is completed. Alert parents to the fact that students have this weekly printout of their homework assignments, in case they want to check on their progress.
- **Streamline parent communications.** Your word processor can also be used to create templates for permission slips, notes home, and other communications from your classroom. You can then tailor them with a few keystrokes to fit each new situation as it arises. For forms that are used often and don't vary, you might use your computer and printer to create a dittomaster for fast duplication.

You can inform parents about district and schoolwide policies — and highlight opportunities for parent involvement — with a *Newsroom*-style handout produced in collaboration with other teachers in your school. You may even decide to publish this kind of newsletter regularly!

- **Plan for parents' open house.** Your computer can help you organize a lively, informative open house for your students' parents as well. Use a computer billboard/slideshow program such as *Screen Machine* to announce your room number, name, grade level, and subject area. Add graphics and a message like: Loew's (teacher's name) Learners say, "Welcome Back To Fifth Grade."

```
Record 23 of 31
================================================================================
LAST NAME:                          DATE:
FIRST NAME:                         GRADE LAST YR:
STUDENT NO.:                        SCHOOL IF NOT MCS:
GRADE:                              FATHER:
SECT.-:                             F. OCCUPATION:
AGE:                                F. EMPLOYER:
SEX:                                F. TELEPHONE:
RACE:                               MOTHER:
ADDRESS:                            M. OCCUPATION:
TELEPHONE:                          M. EMPLOYER:
DOB:                                M. TELEPHONE:
CITY:                               EMERGENCY FRIEND:
COUNTY:                             EM. TELEPHONE:
STATE:                              HOSPITAL:
MCS LAST ATTENDED:                  OTHER CHILDREN/GRADE:
--------------------------------------------------------------------------------
Type entry or use @ commands                                    @-? for Help
```

A student data base can include fields for many different types of information.

Supplement the billboard with computer-assisted student artwork for parents to take with them as they leave. Older students could create posters on a theme (like "Loew's Learners") using graphics software such as *Blazing Paddles* or *Koala Painter*. Younger kids could hand-draw pictures of their families, then use a simple graphics program like *Stickybear Printer* to create labels for them just like an art gallery. Decorate the classroom with a *Print Shop* banner created by you and your students to sum up the evening's theme, and have students create name tags

(continued on page 29)

WEEKLY HOMEWORK ASSIGNMENT SHEET
Big Springs School - Ms. Loew - Room 51

Name _____
Week of _____

Homework Assignments	Classwork		
	Complete	Incomplete	Needs Correction
MONDAY			
Math			
Reading			
Language Arts			
Social Studies			
Science			
Spelling			
TUESDAY			
Math			
Reading			
Language Arts			
Social Studies			
Science			
WEDNESDAY			
Math			
Reading			
Language Arts			
Social Studies			
Science			
THURSDAY			
Math			
Reading			
Language Arts			
Social Studies			
Science			

FRIDAY

No homework, but all uncompleted classwork must be taken home to be completed and signed by parents.

Parent's Signature _____

Support your homework policies with a weekly assignment sheet, created on your word processor, for students to annotate and carry in their notebooks.

NOTES

HOW TO USE THIS MONTH'S POSTER AND WORKSHEETS

TEACHER'S NOTES

What do computers have to do with the Constitution's Bicentennial? All kinds of things, with this special interactive poster from *Teaching and Computers*! Here are some ideas for putting the poster to work with *your* computer-using students.

You might begin by reading aloud the item called ***Watching Over the Constitution***, which tells how scientists are trying to preserve the 200-year-old document. With older students, discuss how technology has changed the ways we keep a record of the past. What has been the impact of photocopiers, microfilm, tape recorders, and above all, computers? This may be a good point to assign your middle elementary students Worksheet #2, ***Writer's Helper***, which challenges students to think about how computers might have helped the Founding Fathers.

Next, turn your students' attention to ***Timeline: Computers and the Constitution.*** Two hundred years is a long time ago. Or is it? Have students find the year the Constitution was signed on the time line. They'll see that Pascal had already invented his adding machine. And only four years after the signing, Jacquard invented his famous loom. How much do your students know about these early computers? Have them research the inventions and give a report on each one.

Or, use the timeline as the starting point for a "March of Time" data base the whole class can add to all year long. For younger students, you can limit the data record to two fields: DATE (year) and EVENT. Enter the events shown on the front of the poster. Then, as the class learns more about the Constitution, American history, world history — even computer history! — have students randomly enter new dates and events in the data base. Periodically, they can SORT by date and print out. How far have they stretched the timeline, and where does the Constitution fit in now? With more advanced students, you may want to expand the data record to include such fields as COUNTRY and TYPE OF EVENT (for example, war, invention, election). As kids add to the data base, have them practice searching the data to answer such questions as: How many computer products and other inventions were developed in times of war? How were events in the 1850s similar and different in countries around the world?

Younger students will now be ready for Worksheet #1, ***Once Upon a Time***. The worksheet presents three activities that test students' understanding of where computers and the Constitution fit in the overall context of history.

Thumbs Up for the Constitution tells how the original 13 states ratified the Constitution and how each later state accepted the Constitution when it joined the Union. The article suggests that kids use a graphics or award-making program, like *Certificate Maker* (Springboard), *Award Maker Plus* (Baudville), or *The Print Shop* (Broderbund/Scholastic), to create a Ratification Certificate for their state. As an extension, have them add the state flower, motto, or song to the certificate. This is a good opportunity for discussing your state's history!

When your students are ready for a little math practice, have them create the graph suggested in ***Sizing the States.*** They might want to make a similar graph using population figures for the 13 states in 1987, and then compare their two graphs. If students are familiar with percentages, have them compute the percent of change in the population of each of the original 13 states. Which state has grown the most?

After students have tried writing a Constitution as suggested in ***Write Your Own***, have them discuss the experience (including how the computer made their writing task easier). Encourage older kids to focus particularly on the steps they went through to create a constitution everyone liked. They'll be ready then to ***Finish the Flowchart*** on Worksheet #3.

As a special part of your celebration of the Constitution, bring together all your students' knowledge of the Constitution and the people who wrote it into a class play. After students have completed their ***Who Am I?*** files, let them assume the role of their Founding Father. The play could be about the last day of the Constitutional Convention, when the delegates stepped forward to sign it, or it could be about the delegates as they headed home to ask their respective states to ratify the new Constitution. This role-playing will give kids insight into what the Founding Fathers had to think about when writing the new Constitution.

WORKSHEET ANSWERS

Worksheet #1: The correct order for "Which Came First?" (top to bottom), is 3,1,2. For "Flag Waving," the flag on the left was flown in 1787. The answers to the "Constitution Quiz" are True, False, True.

Worksheet #2: The first panel should read, "If I had a computer, printer, and word processing program," and the second panel should read, "I wouldn't get writer's cramp!"

Worksheet #3: The first empty parallelogram should read "make change"; the second "vote on idea"; and the third "rewrite idea."

PRIMARY

WORKSHEET TO COPY AND USE WITH THIS MONTH'S POSTER

NAME: _____

ONCE UPON A TIME

Which Came First?

DIRECTIONS: Read the three sentences below. Number them 1, 2, 3 in the order they happened.

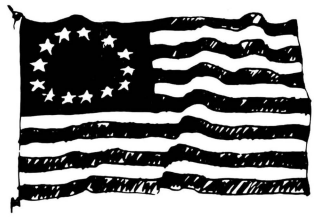
Microcomputers were invented. ___

The Constitution was signed. ___

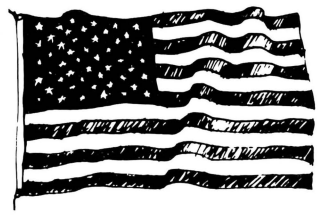
George Washington became the first President. ___

Flag Waving

DIRECTIONS: Look at the two flags below. They are both U.S. flags. Which flag was flown in 1787? Which flag is flown in 1987? Write the correct date on the line under each flag.



_____



_____

Constitution Quiz

DIRECTIONS: Write True or False in the blank next to each sentence.

1. The Constitution is 200 years old. _____
2. The Founding Fathers used computers to write the Constitution. _____
3. The Constitution is a set of rules for everyone in the country to follow. _____

#2

COPY

INTERMEDIATE

WORKSHEET TO COPY AND USE WITH THIS MONTH'S POSTER

NAME: _____

WRITER'S HELPER

DIRECTIONS: The two-part cartoon below shows Gouverneur Morris hard at work writing the Constitution with pen and ink — all 4,543 words of it. But what is he saying?

Try *your* hand at completing this Constitution cartoon. First, fill in the missing words in part one. Then look at the letters that are circled. When you unscramble them, you'll get the punchline for part two! (One letter is done for you.)

1. "If I had a computer, ___ ___ ◯ ___ ◯ ◯ ◯ ___, and ◯ ___ ◯ ___ ___ ◯ ___ ___ ◯ ___ ◯ ___ ___ ___

ADVANCED

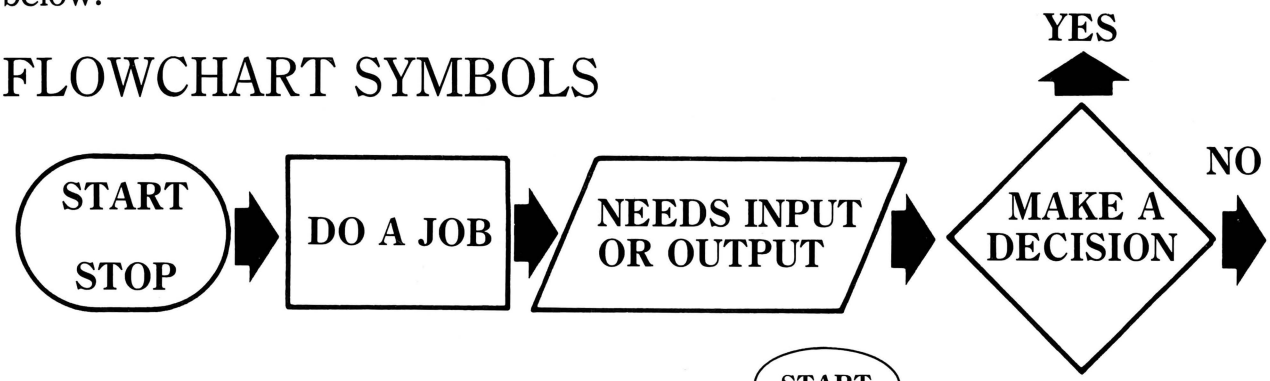
WORKSHEET TO COPY AND USE WITH THIS MONTH'S POSTER

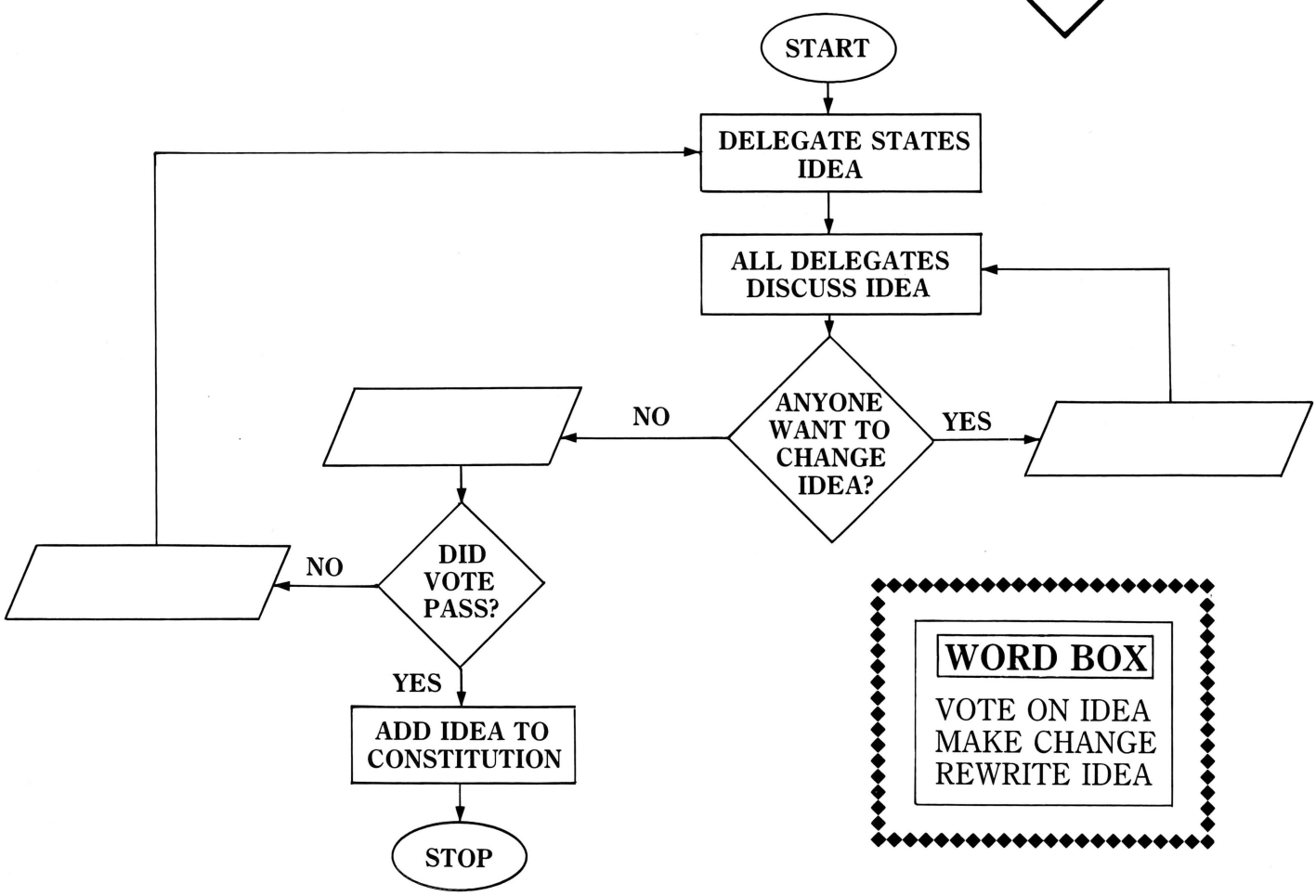
NAME: _____

FINISH THE FLOWCHART

DIRECTIONS: The Founding Fathers had a lot of ideas to discuss as they were writing the Constitution. The flowchart below shows the process they used to turn ideas into parts of the Constitution. Fill in the missing steps using the word box below.

FLOWCHART SYMBOLS





WORD BOX

VOTE ON IDEA
MAKE CHANGE
REWRITE IDEA

or desk markers for their parents.

Use your data base (adapted to include such fields as FAVORITE SUBJECT, HOBBIES, FUTURE PLANS) or a simple survey program such as *Survey Taker* to query your students about their likes and interests. Distribute a printout of the results to remind parents what it's like to be in — for example — fifth grade. This is a natural lead-in to more serious aspects such as the curriculum and the skills that will be developed and reinforced in your class. Use your word processor to summarize these points for parents, and add a list of the textbooks and supplementary materials you will be using.

The day after open house, use your word processor and student data base to send the package of materials with a cover letter to parents who could not attend — and a certificate of attendance (created with software like *Principal's Assistant* or *Certificate Maker)* for those who were present.

MEANWHILE, BACK AT THE BEACH...

Whatever grade or subject you teach, you have a challenging year ahead. You'll probably have more to do — and less time to do it in —than ever before. Putting your computer to work on those must-do organizational tasks will put *you* a step ahead come September. ■

Susan C. Jacoby is an educational consultant based in Connecticut.

Software Guide Programs mentioned in this article:

Blazing Paddles
(Apple, Atari, Commodore, $35)
Baudville
Grand Rapids, MI
800/824-8873 or 616/957-3036
Circle 35 on Product Info. Card

Certificate Maker
(Apple, Atari, Commodore, $49.95; IBM, $59.95)
Springboard
Minneapolis, MN
612/944-3915
Circle 36 on Product Info. Card

Compute A Grade
(Apple, $49.95)
Learning Lab
Northridge, CA
818/701-9438
Circle 37 on Product Info. Card

Create With Garfield
(Apple, $29.95)
DLM
Allen, TX
800/527-4747
in Texas, 800/442-4711
Circle 38 on Product Info. Card

First Draft
(Apple, IBM, $69.95)
Scholastic
New York, NY
212/505-3537
Circle 39 on Product Info. Card

Gradebook Deluxe
(Apple, $59.95)
EduSoft
Berkeley, CA
800-EDUSOFT or 415/548-2304
Circle 40 on Product Info. Card

The J&S Grade Book
(Apple, $49.50)
J&S Software
Port Washington, NY
516/944-9304
Circle 41 on Product Info. Card

KoalaPainter
(Apple, $139.50; IBM, $164.95)
PTI Industries
Scotts Valley, CA
408/438-0946
Circle 42 on Product Info. Card

The Lesson Planner
(Apple, IBM, $39.95)
Compu-Tations
Troy, MI
313/689-5059
Circle 43 on Product Info. Card

The Newsroom (Scholastic Edition)
(Apple, IBM, Commodore, $59.95)
Scholastic
New York, NY
212/505-3537
Circle 44 on Product Info. Card

Pagemaker
(IBM, Macintosh, $495)
Aldus Corp.
Seattle, WA
206/622-5500
Circle 45 on Product Info. Card

Principal's Assistant
(Apple, $59.95)
Mindscape
Northbrook, IL
800/221-9884 or 800/942-7315
Circle 46 on Product Info. Card

The Print Shop
(Apple, $49.95; Atari, Commodore, $44.95; IBM, Macintosh, $59.95)
Broderbund
San Rafael, CA
415/479-1170
Circle 47 on Product Info. Card

The Print Shop Companion
(Apple, $39.95; Atari, Commodore, $34.95; IBM, $44.95)
Broderbund
San Rafael, CA
415/479-1170
Circle 48 on Product Info. Card

SchoolWorks
(Apple, $55)
K-12 Micro-Media
Ramsey, NJ
800/922-0401
Circle 49 on Product Info. Card

Screen Machine
(Apple, $39.95)
Exclusively Micros
Trumbull, CT
Circle 50 on Product Info. Card

Stickybear Printer
(Apple, $39.95)
Weekly Reader Family Software
Middletown, CT
800/852-5000 or 203/638-2400
Circle 51 on Product Info. Card

Survey Taker
(Apple, $29.95)
Scholastic
New York, NY
212/505-3537
Circle 52 on Product Info. Card

Thinking Cap
(Commodore, $34.95)
Broderbund
San Rafael, CA
415/479-1170
Circle 53 on Product Info. Card

WHAT'S YOUR OPINION?

Start the year off with a hands-on social studies unit that lets kids conduct their own opinion polls!

BY LORRAINE HOPPING

Michael Moran

Would sixth graders like to do all their homework on computers? Do more girls than boys prefer to play soccer? Would the majority of kids in school favor a dress code? Your students can find answers to questions like these with the help of a BASIC program called *Opinion Poll.*

The program (listed on page 33, and which runs on Apple II or IBM computers) makes it easy for them to compare their fellow students' opinions on any number of topics. In the process, they will practice formulating good questions, telling fact from opinion, reading and interpreting charts, and using estimation skills. They will also learn about different kinds of polls and how they are used in the "real world."

WHAT MAKES A POLL?

Begin by explaining that opinion polls help measure how a large group feels about a given topic, which is often very different from one individual's opinion. Polls can therefore help businesses, politicians, and other individuals make decisions that will be beneficial for (and popular with) large numbers of people.

To show how opinion polls reflect group preferences, ask your students how they could find out what the group's favorite sport is. Students might suggest that you ask the question of each person and write all the answers on the board. Point out that this method might work for one class, but what if you wanted to know the answers for the entire school? Or the entire community? What about the entire country?

Explain that a task of this size requires taking a poll. Poll takers usually choose a *random sample* (part of the group selected by chance) and ask this sample group the question. From their answers the poll takers can *estimate* what the responses of the entire group would be.

To demonstrate how this works, ask half the students in the class what their favorite sport is and write their answers on the board. Quickly tabulate the responses. Next, write the number of responses for each sport over the total number of students in the sample. For example, let's say five out of 15 students said "baseball" was their favorite sport. Write 5/15. Then multiply both top and bottom figures by 2. The estimate for the whole class would be 10 out of 30 (10/30).

(Note: If students are familiar with percentages, challenge them to figure what percentage of their sample preferred each sport. Explain that while these percentages represent exact statistics for the sample of students surveyed, they can also be interpreted as estimated statistics for the whole class or even the whole

school. For more about using percentages in this project, see box on page 32 .)

The larger the sample group, tell students, the more accurate a poll's estimated results are likely to be. To illustrate your point, retake the "favorite sport" survey using a smaller and larger sample, then compare the results. How do they differ?

FACT VS. OPINION

Distinguishing factual surveys from opinion polls is important if the correct conclusions are to be drawn from the information polls present, tell students. To illustrate, write the following two questions on the board. *Do you prefer to do your homework on a computer? Do you have a computer at home?* Ask students to identify which question asks an opinion, and which a fact. As a hint, explain that opinion questions generally ask about a person's preference for one thing over another, or what he or she thinks about something. Words such as "favorite," "like/ dislike," "agree/ disagree," "prefer," "think," and "believe" are common in opinion polls.

Next, circulate some published examples of opinion polls and factual surveys. Sources might include social studies textbooks, newspapers (*USA Today* is well-known for its nationwide polls), newsmagazines (*Time, Newsweek, U.S. News and World Report*), and entertainment magazines (*People, Us*). Ask one or two students to select a survey, identify it as fact or opinion, and summarize any conclusions which can safely be drawn from the data.

PREPARING THE POLLS

Next, have students brainstorm 10 or 12 good questions for their own opinion polls. The questions should all ask about people's preferences, such as:

- What's your favorite subject?
- What games do you like to play during recess?
- What is your favorite after-school activity?
- Do you like using the computer in school?
- What's your favorite main dish in the school cafeteria?

Briefly discuss the questions, encouraging the class to come up with at least one practical use for each question. For example, the question, "What's your favorite main dish?" might help the head of the school cafeteria plan menus that are more to students' liking.

Divide the class into polling teams of four to five students and select a leader for each team. Each team should choose one question to copy from the board, then brainstorm up to five responses to the question. (A

(continued)

Curriculum Connections

Social Studies
**Understanding the function of polls*
**Reading and interpreting charts*

Math
**Estimation skills*
**Percentages*

Critical Thinking
**Distinguishing fact from opinion*
**Formulating research questions*

```
***** OPINION POLL RESULTS *****
POLL CONDUCTED BY: BILL WATSON
QUESTION: WHAT IS YOUR FAVORITE COLOR?

ANSWER          GIRLS       BOYS        TOTAL
-----------------------------------------------
1. BLUE         20          10          30
2. RED          2           23          25
3. YELLOW       4           6           10
4. GREEN        1           10          11
5. PURPLE       11          4           15
6. OTHER        4           5           9
-----------------------------------------------
TOTAL           42          58          100

ANSWER          GR. 1-3     GR. 4-6     TOTAL
-----------------------------------------------
1. BLUE         17          13          30
2. RED          12          13          25
3. YELLOW       8           2           10
4. GREEN        3           8           11
5. PURPLE       2           13          15
6. OTHER        2           7           9
-----------------------------------------------
TOTAL           44          56          100
```

The first Opinion Poll *chart gives the total number of votes for each response (column four) as well as a breakdown of votes by gender (columns two and three). The second chart gives a vote total and a breakdown by grade level.*

Help!

If your printer "crashes" the program, press CTRL-RESET. You should hear a beep and the cursor prompt should appear on the screen. Type RUN 920 and press RETURN. Recheck your printer to make sure it is turned on, the paper is in place, and the SELECT or ON-LINE button is in the "on" position. Then press the space bar to begin printing out the results.

few questions might have less than five responses.) Team leaders should write these five responses underneath the question, along with a sixth "catch-all" response such as "other" or "none of the above."

Help the teams check their final questions and answers for clarity and lack of *bias* — wording that favors one kind of response over another.

LET THE POLLING BEGIN!

Type in the *Opinion Poll* program that appears at right, and test it by running it once yourself, using the printer that your students will use.

Select one of your student teams to conduct a test poll. The computer will first ask the team leader to enter his or her name, then to specify the grade levels of the poll participants. *Opinion Poll* is set up to accommodate two grade levels at once; if your students are all at the same grade level — for example, fifth grade — then divide the class in half randomly and call one group "5A" and the other "5B." If the class spans more than two grades, you can combine grades into two categories: for example, "3-4" and "5-6."

The computer will then prompt the leader to type in the question that the team has selected, the six possible responses to the question, and the exact number of students who will be participating in the poll. *(Opinion Poll* can accommodate up to 200 participants.)

Your students are now ready to take the test poll, one by one. After the last person has entered his or her answer, the computer indicates that it is ready to print out the poll results. *Note: The program does not provide a way to save either the survey question or the results.* Make sure your printer is hooked up properly, turned on, and loaded with paper. Press the space bar to print. (If you do not have your printer properly hooked up, the computer will "crash" or fail to proceed with the program. See the box above for help.)

The results of the poll are organized into two charts, one which breaks down the total number of responses by gender, and one by grade level. (See illustration at left.) The program will then offer to print a second copy of the charts or proceed with a new survey before ending.

After a few classroom test runs, your student teams will want to find out how other groups respond to their questions. One way to do this is to invite another class — preferably at a different grade level — to join with your students in answering the polls. Or you could designate a Schoolwide Polling Period, with students from all grades welcome to drop in at lunch or after school to participate. If you have only one computer and printer, your teams will need to take turns conducting their polls; otherwise you can run surveys simultaneously. Either way, remind each team leader to enter the proper grade levels and the total head count of the students participating at his or her "polling station."

AFTER THE POLLS CLOSE

- Test your students' understanding of the survey result charts. Distribute copies of one team's charts and ask your class such questions as: How many boys took part in the poll? How many girls? How many students in all? Which answer received the most total votes? Which one received the fewest?

Next, have students concentrate on the answers given by the different groups. Did boys as a group or girls as a group prefer one answer over another? Did their classmates express a preference that was different from those in other classes? What might explain these differences of opinion?

- Help students create a display with all the data charts, headlined "IN OUR OPINION." Invite your class' "guest" participants to view and discuss the outcome of the polls.
- Assign each team to write a report to accompany its survey charts. Each report could explain why that particular topic was chosen and what conclusions can be drawn from the data (including any recommendations for action).
- Put the survey charts and reports in a folder and save them until the end of the school year. At that time, have students conduct their polls again. How do the new survey results compare with the original ones? How might students explain any shifts in opinion? ■

Lorraine Hopping is a free-lance writer based in New York City.

Playing the Percentages

You can modify *Opinion Poll* to express the totals on each chart as percentages. Just substitute the following lines in the program listing:

```
1030  PRINT : PRINT X;".";CH$(X),RG(X),RB
      (X), INT (RG(X) + RB(X)) / ST * 100
      ;"%"
1060  PRINT : PRINT "TOTAL", INT (TG) /
      ST * 100;"%", INT (TB) / ST * 100;
      "%", INT (TG + TB) / ST * 100;"%"
1120  PRINT : PRINT X;".";CH$(X),G1(X),
      G2(X), INT (R(X) / ST * 100);"%"
1150  PRINT : PRINT "TOTAL", INT (T1) /
      ST * 100;"%", INT (T2) / ST * 100;
      "%", INT (T1 + T2) / ST * 100;"%"
```

PROGRAM LISTING FOR OPINION POLL

This program listing is designed for use on Apple II series computers. For instructions on how to modify the program for use on other brands of computers, see page 36.

```
10 REM OPINION POLL COPYRIGHT @ 1987 BY SCHOLASTIC INC.
20 HOME:CLEAR:N = 200
30 DIM R(N),RB(N),RG(N),G1(N),G2(N)
40 PRINT "  ***  WELCOME TO OPINION POLL!   ***"
50 PRINT:PRINT "  THIS PROGRAM WILL HELP YOU POLL UP
TO"
60 PRINT "TO ";N;" STUDENTS FOR THEIR OPINIONS"
70 PRINT "ON ANY TOPIC."
80 PRINT:PRINT "  ENTER YOUR NAME AND PRESS <RETURN>.
":INPUT N$
90 HOME:PRINT "  THE PROGRAM BREAKS DOWN THE RESULTS"
100 PRINT "OF YOUR POLL INTO ANY TWO GRADE LEVELS."
110 PRINT "ENTER THE NUMBER OF THE FIRST GRADE"
120 PRINT "LEVEL AND PRESS <RETURN>. (FOR EXAMPLE,"
130 PRINT "FOR FIFTH GRADE, YOU WOULD ENTER A 5.)":IN
PUT G1$
140 PRINT:PRINT "  ENTER THE NUMBER OF THE SECOND GRA
DE"
150 PRINT "LEVEL AND PRESS <RETURN>.":INPUT G2$
160 PRINT:PRINT "  YOU ARE POLLING STUDENTS IN GRADES
 "
170 PRINT G1$;" AND ";G2$;". IS THIS CORRECT (Y/N)?"
180 GET Z$:IF Z$ = "N" THEN 90
190 IF Z$ <> "Y" THEN PRINT:PRINT "  PLEASE TYPE 'Y'
OR 'N'.":GOTO 180
200 HOME:PRINT "  WHAT QUESTION WOULD YOU LIKE TO ASK
"
210 PRINT "STUDENTS, ";N$;"?"
220 PRINT:PRINT "  ENTER THE QUESTION. PRESS <RETURN>
.":INPUT Q$:IF Q$ = "" THEN 220
230 PRINT:PRINT "   THE QUESTION WILL APPEAR LIKE THI
S:"
240 PRINT:PRINT Q$
250 PRINT:PRINT "  IS THIS CORRECT (Y/N)?":GET Z$
260 IF Z$ = "N" THEN 200
270 IF Z$ <> "Y" THEN PRINT "  TYPE 'Y' OR 'N', PLEAS
E.":GOTO 250
280 HOME:PRINT "  HOW MANY POSSIBLE RESPONSES TO THE"
290 PRINT "QUESTION ARE THERE (UP TO 6)?"
300 PRINT:PRINT "  ENTER THE NUMBER OF RESPONSES. THE
N"
310 PRINT "PRESS <RETURN>."
320 INPUT CH:IF CH > 6 THEN PRINT "  THAT'S TOO MANY.
 ENTER AGAIN.":GOTO 320
330 FOR X = 1 TO CH
340 PRINT:PRINT "  ENTER RESPONSE #";X;" AND PRESS <R
ETURN>."
350 INPUT CH$(X)
360 IF LEN(CH$(X)) > 10 THEN PRINT:PRINT "  PLEASE SH
ORTEN ";CH$(X);" TO 10 ":PRINT " LETTERS OR LESS.":GO
TO 350
370 PRINT:PRINT "  IS ";CH$(X);" CORRECT (Y/N)?"
380 GET Z$:IF Z$ = "N" THEN 340
390 IF Z$ <> "Y" THEN PRINT "  TYPE 'Y' OR 'N', PLEAS
E.":GOTO 380
400 NEXT X
410 HOME:PRINT "  HOW MANY STUDENTS WILL PARTICIPATE
IN"
420 PRINT "THE OPINION POLL?"
430 PRINT:PRINT "  ENTER THE NUMBER OF STUDENTS (UP T
O"
440 PRINT N;") AND PRESS <RETURN>."
450 INPUT ST:IF ST > N THEN PRINT "  THAT'S TOO MANY.
 ENTER AGAIN.":GOTO 450
460 HOME:PRINT "  YOU ARE NOW READY TO CONDUCT THE"
470 PRINT "POLL. PLEASE ASK THE FIRST STUDENT TO"
480 PRINT "COME TO THE COMPUTER.":GOSUB 10000
490 FOR Y = 1 TO ST
500 PRINT "    *****   OPINION POLL   *****"
510 PRINT:PRINT "CONDUCTED BY: ";N$
520 PRINT:PRINT "STUDENT #";Y
530 PRINT:PRINT "  WHICH ONE ARE YOU?"
540 PRINT:PRINT "     1. A BOY."
550 PRINT "     2. A GIRL."
560 PRINT:PRINT "  ENTER 1 OR 2 AND PRESS <RETURN>."
570 INPUT S:IF S <> 1 AND S <> 2 THEN 570
580 GOSUB 10000:PRINT "  WHAT GRADE ARE YOU IN?"
590 PRINT:PRINT "  1. GRADE ";G1$;"."
600 PRINT "  2. GRADE ";G2$;"."
610 PRINT:PRINT "  ENTER 1 OR 2 AND PRESS <RETURN>."
620 INPUT G:IF G <> 1 AND G <> 2 THEN 620
630 GOSUB 10000:PRINT Q$:PRINT
640 FOR X = 1 TO CH
650 PRINT "  ";X;". ";CH$(X)
660 NEXT X
670 PRINT:PRINT "  ENTER THE NUMBER OF YOUR CHOICE"
680 PRINT "(1 TO ";CH;") AND PRESS <RETURN>."
690 INPUT AN:IF AN < 0 OR AN > CH THEN PRINT "  ENTER
 AGAIN.":GOTO 690
700 GOSUB 10000:PRINT "  IS THIS INFORMATION CORRECT?
":PRINT
710 IF S = 1 THEN PRINT "  YOU ARE A BOY."
720 IF S = 2 THEN PRINT "  YOU ARE A GIRL."
730 PRINT:IF G = 1 THEN PRINT "  YOU ARE IN GRADE ";G
1$;"."
740 IF G = 2 THEN PRINT "  YOU ARE IN GRADE ";G2$;"."
750 PRINT:PRINT "  IN ANSWER TO THIS QUESTION:"
760 PRINT:PRINT Q$:PRINT:PRINT "YOU CHOSE ";CH$(AN);"
 "
770 PRINT:PRINT "  TYPE 'Y' OR 'N' PLEASE."
780 GET Z$
790 IF Z$ = "N" THEN HOME:PRINT "  PLEASE ENTER THE I
NFORMATION AGAIN.":GOTO 530
800 IF Z$ <> "Y" THEN 780
810 PRINT:PRINT "  PLEASE ASK THE NEXT STUDENT TO COM
E"
820 PRINT "TO THE COMPUTER. IF THERE ARE NO MORE"
830 PRINT "STUDENTS, TELL ";N$;" TO COME.":GOSUB 1000
0
840 REM TALLY VOTE
850 R(AN) = R(AN)+1:REM RESPONSE
860 IF S = 1 THEN TB = TB+1:RB(AN) = RB(AN)+1:REM RES
PONSE BY BOY
870 IF S = 2 THEN TG = TG+1:RG(AN) = RG(AN)+1:REM RES
PONSE BY GIRL
880 REM RESPONSES BY GRADE
890 IF G = 1 THEN T1 = T1+1:G1(AN) = G1(AN)+1
900 IF G = 2 THEN T2 = T2+1:G2(AN) = G2(AN)+1
910 NEXT Y
920 REM PRINT OUT RESULTS
930 PRINT "  IT IS NOW TIME TO PRINT OUT YOUR"
940 PRINT "POLL RESULTS. MAKE SURE YOUR PRINTER"
950 PRINT "IS TURNED ON AND THE PAPER IS IN PLACE."
960 GOSUB 10000:PR# 1
970 PRINT "      ***** OPINION POLL RESULTS *****"
980 PRINT:PRINT "POLL CONDUCTED BY: ";N$
990 PRINT:PRINT "QUESTION: ";Q$
1000 PRINT:PRINT:PRINT "ANSWER","GIRLS","BOYS","TOTAL"
1010 PRINT:PRINT "----------------------------------
------------------
1020 FOR X = 1 TO CH
1030 PRINT:PRINT X;". ";CH$(X),RG(X),RB(X),R(X)
1040 NEXT X
1050 PRINT:PRINT "----------------------------------
----------------------"
1060 PRINT:PRINT "TOTAL",TG,TB,ST
1070 PRINT:PRINT:PRINT:PRINT
1080 REM RESPONSE BY GRADE
1090 PRINT "ANSWER","GR. ";G1$,"GR. ";G2$,"TOTAL"
1100 PRINT:PRINT "----------------------------------
----------------------"
1110 FOR X = 1 TO CH
1120 PRINT:PRINT X;". ";CH$(X),G1(X),G2(X),R(X)
1130 NEXT X
1140 PRINT:PRINT "----------------------------------
----------------------"
1150 PRINT:PRINT "TOTAL",T1,T2,ST
1160 PRINT:PRINT:PR# 0
1170 GOSUB 10000
1180 PRINT "  WOULD YOU LIKE TO PRINT OUT ANOTHER"
1190 PRINT "COPY (Y/N)?"
1200 GET Z$:IF Z$ = "Y" THEN 930
1210 IF Z$ <> "N" THEN 1200
1220 PRINT:PRINT "  WOULD SOMEONE ELSE LIKE TO CONDUC
T A"
1230 PRINT "SCHOOL POLL (Y/N)?"
1240 GET Z$:IF Z$ = "Y" THEN GOTO 10
1250 IF Z$ <> "N" THEN 1240
1260 PRINT:PRINT "GOODBYE....":END
10000 REM PRESS SPACE BAR
10010 PRINT:PRINT "  PRESS THE SPACE BAR TO CONTINUE."
10020 GET Z$
10030 IF Z$ <> CHR$(32) THEN 10020
10040 HOME:RETURN
```

Seven New Computer-Based Products To Help K-8 Teachers Use the Computer In the Curriculum.

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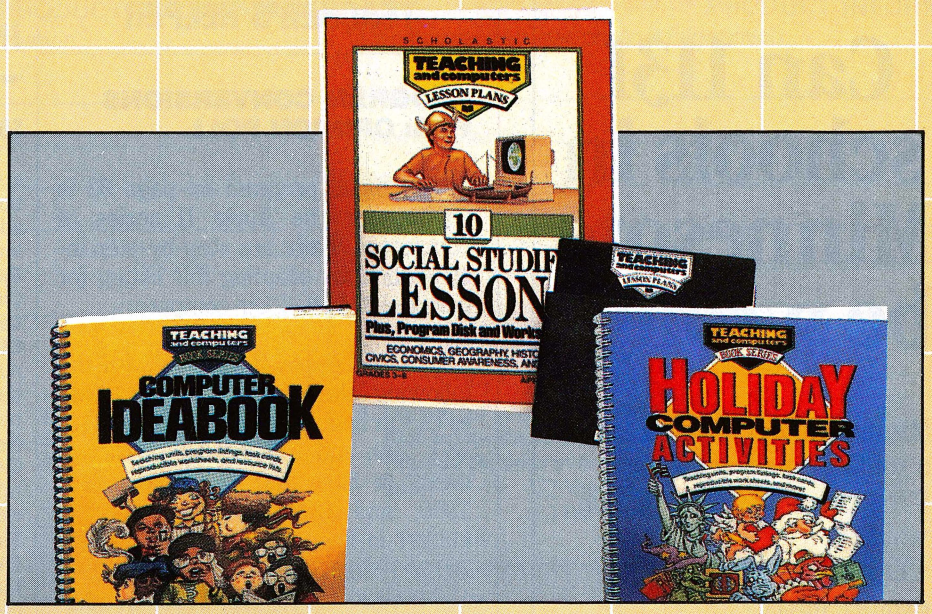

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TEACHER'S HELPER

PROGRAM CONVERSIONS FOR: OPINION POLL

The BASIC program on page 33 is written for the Apple II series of computers. Here are step-by-step instructions for adapting this listing for use on IBM PC/PCjr computers.

Use the Apple II version with the following alterations: Change HOME to CLS in lines 20, 90, 200, 280, 410, 460, 790, and 10040. Change GET to INPUT in lines 180, 250, 380, 780, 1200, and 1240. Change PRINT to LPRINT in lines 970, 980, 990, 1000, 1010, 1030, 1050, 1060, 1070, 1090, 1100, 1120, 1140, and 1150. In addition, change lines 960, 1160, and 10020 to read as follows:

```
960 GOSUB 10000
1160 LPRINT: LPRINT
10020 Z$=INKEY$
```


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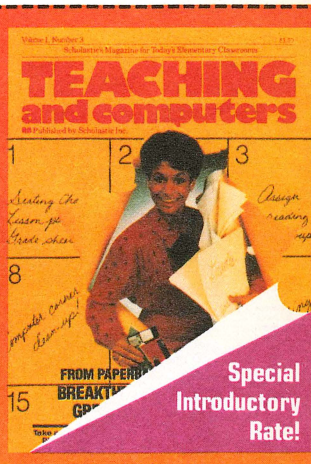

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HIGH TECH WELCOME BACK

Hone in on homonyms and revive your students' computer vocabulary with this two-part lesson.

Preparation: Use your word processing program to type the "Welcome Back" data file, below. Save it on a blank disk under the file name WELCOME. Next, type in the "Homonym Finder" worksheet, below, and make one copy for every two students in your class.

WELCOME DATA FILE

DEAR STUDENTS:

WELCOME (1) TO SCHOOL. THIS YEAR WE ARE GOING TO HAVE A (2) OF FUN! MAKE NO (3) ABOUT IT. THE (4) WE WILL COVER RANGE FROM THE MOST (5) TO THE MORE COMPLEX. BEFORE WE (6) INTO THIS YEAR'S (7), I FIRST WANTED TO TEST YOUR (8). THAT'S WHAT THIS (9) IS ALL ABOUT. IF YOU CAN (10) IT, MORE (11) TO YOU.

SIGNED,
THE TEACHER

Discussion: Tell students that a *homonym* is one of a pair or more of words that sound and are spelled the same, but have different definitions. As an analogy, ask them to think of all the kids in school named John, and how different they are in spite of having the same name. Test students' understanding by challenging them to come up with as many definitions as they can for the homonym "bug." (*As a noun,* bug *is an insect; a disease, or a germ that causes a disease; a concealed listening device; an error in a computer program; as a verb,* bug *means annoy, as in the sentence "Make him stop bugging me."*)

Activity: Divide the class up into teams of two, and give each team a copy of the "Homonym Finder" worksheet. Allow time for each pair of students to complete the worksheet together. Next, have the teams go to the computer one at a time and call up the WELCOME data file. Tell students that each of the eleven worksheet answers is a homonym for a missing word with the same number in the "Welcome Back" message. Each team should divide up the work of inserting the proper homonyms into the WELCOME file, and saving the decoded message under a new file name.

Extending the activity: As a challenge, have students use the four unused computer words in the word box — run, save, bug, and chip — to add sentences to the letter in the data file.

Jody Williams
Bradford Woods Elementary School,
Bradford Woods, PA

Answers: The answers to the worksheet and to the letter are as follows: (1) back; (2) data base; (3) error; (4) fields; (5) BASIC; (6) enter; (7) program; (8) memory; (9) message; (10) read; (11) power.

HOMONYM FINDER
WORKSHEET

NAMES: _____ **DATE:** _____

Find the word that fits each definition below from the Word Box on this worksheet. Four of the words are not used at all.

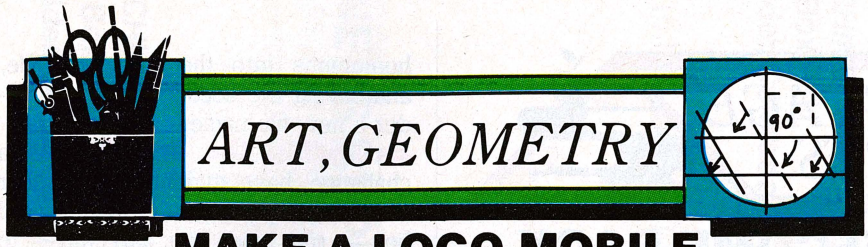
1. In the Logo programming language, the letters BK stand for _____.
2. A piece of software that lets you organize, store, and retrieve information is called a _____ _____.
3. Another word for a program bug is an _____.
4. Categories of information in a data base are called _____.
5. The most common programming language for microcomputers is _____.
6. Some computer keyboards use this word instead of the word RETURN. _____
7. A list of instructions for a computer to follow is known as a _____.
8. What the "M" stands for in ROM and RAM. _____
9. This is what one computer can send to another, using a modem. _____.
10. What the "R" stands for in ROM. _____
11. Before a computer will work, you first have to turn on the _____.

Your answers to the eleven questions above will decode the message found in the WELCOME data file. Save your decoded message on a blank diskette under an original file name.

CHALLENGE: Add one, two, three or — if you can — four sentences to the letter in the WELCOME data file using the unused words from the word box on this page. Save your work on your own diskette under a new file name.

WORD BOX

BACK	CHIP	ERROR	MESSAGE	READ
BASIC	DATA BASE	FIELDS	POWER	RUN
BUG	ENTER	MEMORY	PROGRAM	SAVE



MAKE A LOGO MOBILE

Create these lively room ornaments while studying rhombus and square shapes.

Preparation: You'll need the following materials: three to four sheets of white, lightweight cardboard per child; water soluble colored markers; scissors; transparent tape; a hole punch; colored string; any version of Logo; a blank diskette; and a printer. Load Logo into your computer and type the two procedures on page 39. (They will work with almost any version of Logo.) Save the procedures on a blank diskette under the file name SHAPES.

Discussion: Draw a square and a rhombus on the chalkboard, and call on the class to identify each shape. If you work with older children, discuss the geometric similarities and differences between the two. *(Both a square and a rhombus are* parallelograms *— shapes with four sides, the opposites of which are parallel and equal. The sum of the angles is always 360 degrees. A square has four 90-degree angles; a rhombus has opposite angles that are equal. The RHOMBUS procedure below, for example, draws a rhombus with two 60-degree angles and two 120-degree angles.)* With younger children, you might just say that a rhombus is a square or rectangle that "leans to one side."

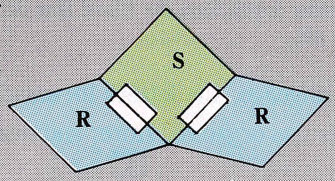
Activity: Have students gather around one computer in your classroom. Tell the class you have programmed the Logo turtle to draw a square and a rhombus, but aren't sure yet what their exact size should be. Explain that you want to make the shapes as large as possible without running off the screen. You also want the shapes to be of equal size — if the square is 150 turtle steps, the rhombus must also be 150.

Ask students to select a number between 1 and 200, and type it into the computer after the word RHOMBUS (for example RHOMBUS 100). How well does the shape fit? Have children experiment until they have a rhombus that fills up as much of the monitor as possible without going off the screen. *(The final number depends on your screen size. In most cases it will fall between 145 and 175.)* Type that number after the word SQUARE. Do lines in the square go off the screen? If so, have kids help you adjust the size of both shapes.

Print out the final shapes and make one copy of each for every child. Distribute the shapes, along with three or four sheets of white, light-weight cardboard. Have children cut out the shapes and trace the square onto the construction paper six times, and the rhombus ten times. They should then color their squares one color, and the rhombuses a contrasting color. After cutting them out, children can color

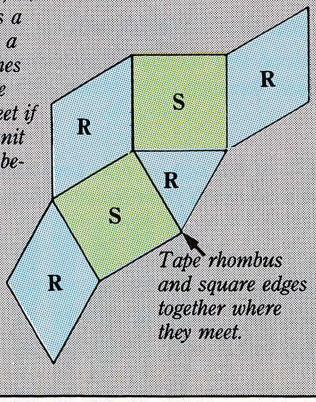
DIRECTIONS FOR MAKING A HELIX MOBILE

1. Rotate one of the squares so that one corner points straight up. Tape a rhombus to the lower right edge of the square and another rhombus to the lower left edge of the square.

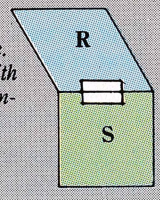


2. Repeat step 1 three more times until you have four square/rhombus units. (You will have 2 squares and 2 rhombuses left over.)

3. Tape the units together as shown so that, within each two units, a square touches a rhombus, and a rhombus touches a square. (The shapes will meet if you fold one unit over the other before taping the two together.)

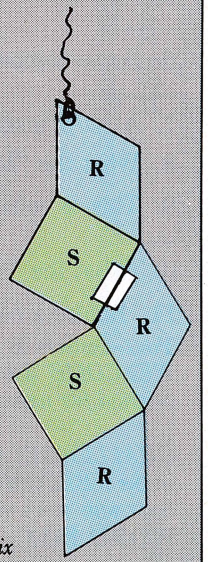


4. Build an end unit by taping the right edge of one remaining rhombus to the left edge of one remaining square. Do the same with the other remaining square and rhombus.



5. Join each end unit to the mobile. At each end, a rhombus should touch a square.

6. Punch a small hole at the vertex of one end unit rhombus. Pass colored string through it and tie securely.



7. Hang the helix mobile from the ceiling and watch it spin!

the backs of the shapes the same as the fronts.

Display the instructions for making a helix mobile, in the front of your classroom. Emphasize that these directions must be followed carefully. You may want to distribute copies of the diagrams as well, so that students can follow along as you show them what to do.

Evelyn Dale
Sacramento Country Day School,
Sacramento, CA

SHAPES PROCEDURES

```
TO RHOMBUS :D
  HT CS PU SETX -40 SETY 60
  SETH 90 PD
  REPEAT 2 [FD :D RT 120 FD :D RT 60]
END

TO SQUARE :D
  CS PU SETX -120 SETY -70 PD
  REPEAT 4 [FD :D RT 90]
END
```

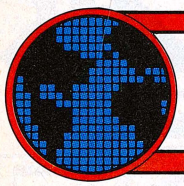
PATTERN MAKER

Have kids look closely at a fall leaf or flower. What patterns do the veins in the leaf or the petals on the flower make? Challenge students to create their own "natural" art pattern on the computer using any Logo program, or a drawing program like *Delta Drawing* (Spinnaker) or *Creativity Unlimited* (Sunburst).

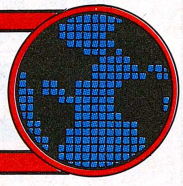
SAFETY FIRST

Your students can be cartoonists with a cause! Challenge them to use one of the many comic strip makers such as *Snoopy Writer* (Random House) or *Create with Garfield* (DLM) to create a comic strip that communicates an important message about safety.

— Mary Dalheim



SOCIAL STUDIES



CONSTITUTIONAL FACT CHECK

These two computer activities will bring the signing of the United States Constitution to life for your students — just in time for its 200th anniversary.

I. NEWSFLASH

Preparation: Use your word processing program to create the NEWS data file at right, tailoring it to fit your class' needs. Save it on a blank disk. When you are ready to begin the lesson, print out and duplicate it for each member of your class.

Tip: Just before printing out the data file, place two carriage returns after each sentence to create an empty line for students to write in. Do not save these carriage returns on the data disk.

Discussion: Your students may have noticed the many kinds of information now available about the Constitutional Convention in honor of its bicentennial celebration. During those four months in 1787 when the Constitution was being written, however, everything was "hush-hush." To prevent outside interference in the important discussions, the delegates were sworn to secrecy.

It's not hard to imagine, then, that a news reporter on the scene 200 years ago might have had trouble getting the facts straight. Such a reporter, tell students, might have filed a story like the one called NEWS on your data disk.

Activity: Distribute copies of the NEWS file to your students, and announce that they have all been designated "Fact Checkers" by the reporter's news bureau. Their job: correct the story's mistaken words and phrases, shown in capital letters.

Encourage your students to use the full range of classroom and library resources, and to jot down other facts of interest that they come across related to the Constitution and the Convention.

When the Fact Checkers have completed their research, have them return to the computer and correct the misinformation on the data disk, making proper use of the INSERT and DELETE functions of the word processing program. Each child should save the changes he or she has made, along with any new facts that he or she has added, on a blank diskette under a new file name.

Answers: The corrected data file should include the following substitutions: DECLARATION OF INDEPENDENCE = Articles of Confederation; FIFTY = thirteen; EVERY STATE = every state except Rhode Island; SOUTHERN = larger; OLDER = smaller; CONCLUSION = Compromise; SUPREME COURT = Senate; HOUSE OF PARLIAMENT = House of Representatives; DELAWARE = Pennsylvania; ONLY = first.

Thomas E. Boudrot,
Texas Education Agency,
Austin, TX

NEWS DATA FILE

Type the file exactly as it appears below.

Philadelphia, September 17, 1787 —The Grand Convention that has drawn national attention here all summer came to a close today.

The purpose of the convention was to make changes in the DECLARATION OF INDEPENDENCE, which has governed the United States until now. Dele-

gates, or representatives, were invited from each of the FIFTY states, and EVERY STATE took part in the convention.

According to our sources, a major controversy developed over two different models for setting up the new government. Some delegates were pushing for the Virginia Plan because it protected the rights of the SOUTHERN states. Others argued for the New Jersey Plan as a way for the OLDER states to keep equal representation in the United States Congress.

Some delegates threatened to leave the convention if their states were not given fair representation in the new government. A committee was formed to find a solution all the delegates could live with. The result was the Great CONCLUSION, which gives every state equal representation in the SUPREME COURT, or the upper house of Congress. States with larger populations will have more votes in the HOUSE OF PARLIAMENT.

The document produced by the conventioneers is called the Constitution of the United States. Gouverneur Morris of DELAWARE actually wrote the Constitution in beautiful script using ink and parchment. And today, George Washington was the ONLY person to sign the document. It is a memorable day in the history of the United States.

II. FACT FILE

Preparation: Review with your class the essential functions of your data base management software.

Discussion: For Fact Checkers, tell students, there's no more useful tool than a data base. It can keep track of information so that, once entered, the facts will always be at your fingertips. Data bases also allow you to organize information in different ways to reveal new facts.

Activity: Have your students set up a DELEGATES data base, with a data record for each of the 55 delegates to the Constitutional Convention. Here are some fields for each record.

NAME: (Enter your delegate's last name first, then his first name.)

STATE NAME: (Spell out the name of the state he was from.)

STATE SIZE: (Was this state large or small in terms of population?)

REGION: (Indicate whether the delegate's state was a northern or southern state.)

AGE: (Enter the delegate's age at the time of the convention.)

PROFESSION: (Enter your delegate's main occupation)

ROLE AT CONVENTION: (Did your delegate open the convention, chair a committee, give the last speech? Summarize in a few words.)

WHAT HE BELIEVED: (Where did your delegate stand on states' rights, slavery, etc.?)

SIGNED (YES/NO): (Enter "yes" if he signed the Constitution; "no" if he did not.)

FUTURE: (Indicate if your delegate went on to become President, Vice President, a Member of Congress, or held some other major office in the new government.)

Remind your students to standardize the vocabulary and abbreviations they use when entering data in the records. When the data base is complete, have students SORT and SEARCH for such "facts" as:

- Who was the youngest delegate? Who was the oldest? How many delegates were 35 years old or older?
- Which region of the country (North or South) sent the most delegates?
- Were delegates from the larger states more likely to sign the Constitution?
- How many delegates went on to hold office in the new government?

Encourage your students to add to their data base all year long.

Mim Bizic
Edgeworth Elementary School,
Sewickely, PA

MATH

BASIC SKILLS WORKOUT

Challenge students to build their "math muscles" with this ready-to-use BASIC program.

Preparation: Type in and save THE MATH GYM program listing (at right, for Apple II series computers). This simple drill and practice program offers students unlimited exercise for their skills in addition, subtraction, multiplication, and division. The program acknowledges right answers and corrects wrong ones; at the end of each session, it will display the number of problems answered correctly, and what percentage of the total that equals.

To help kids keep track of their own scores over time, create a simple record form like the one below.

Discussion: Take a few minutes to acquaint students with the program format. Explain that the answer to each problem is a whole number except in the case of division problems. When entering an answer to a division problem, students must enter the quotient, followed by a comma, and then the remainder. This is true even where there is no remainder. Thus, a child answering the question 45/5, would type in 9,0. Also review the record form and how to fill it in after each session.

Activity: Instruct students to think of the program as a gym for building their "math muscles." The challenge for each student is to show steady

individual improvement over time — in both "endurance" (number of problems tackled) and performance. Offer the services of a "trainer" (yourself or a peer) for extra help on weak spots. For extra incentive, schedule a mid-semester "Math Quadrathlon," with team or individual competition in all four operations.

Modifying the program: As the program works now, addition and subtraction problems are generated with numbers no greater than 1,000. The numbers used in the multiplication problems do not exceed 100 and, in the division problems, the numerator is no greater than 1,000; the denominator no greater than 200. To alter the variables so that larger or smaller numbers are generated, simply change the respective number — appearing just before the second closing parenthesis — in lines 1020 and 1030 for addition; 2030 and 2040 for subtraction; 3020 and 3030 for multiplication; and 4050 and 4060 for division.

Nathan Annenberg
P.S. 246
New York, NY

```
5  HOME
10  PRINT  TAB( 8)"WELCOME TO THE MATH GYM!": PRINT : PRINT
20  FOR T = 1 TO 1500: NEXT T: PRINT : PRINT
30  PRINT  TAB( 5)"YOU DECIDE WHICH OF THE FOUR BASIC"
40  PRINT "MATH OPERATIONS YOU WANT TO TRY."
50  PRINT "YOU CAN CHOOSE A NEW OPERATION"
60  PRINT "EACH TIME YOU PLAY, IF YOU LIKE."
70  PRINT "YOU CAN ALSO CHOOSE TO END"
80  PRINT "THE PROGRAM AFTER ANY QUESTION."
90  PRINT "A GRADE APPEARS WHEN YOU ARE DONE."
100  PRINT : PRINT : PRINT "TO CONTINUE, TYPE THE LETTER C."
110  INPUT R$
120  IF R$ < > "C" THEN 100
130  HOME : PRINT "OKAY, HERE ARE THE FOUR OPERATIONS:"
140  PRINT : PRINT  TAB( 10)"1) ADDITION": PRINT
150  PRINT  TAB( 10)"2) SUBTRACTION": PRINT
160  PRINT  TAB( 10)"3) MULTIPLICATION": PRINT
170  PRINT  TAB( 10)"4) DIVISION": PRINT
180  PRINT : PRINT : PRINT "WHICH OPERATION WOULD YOU LIKE TO TRY?"
190  PRINT "JUST TYPE IN 1,2,3, OR 4."
200  INPUT C
210  ON C GOSUB 1000,2000,3000,4000
220  FOR T = 1 TO 1200: NEXT T
225  PRINT : PRINT
230  PRINT "IF YOU WANT TO TRY AGAIN, TYPE 'YES'."
240  PRINT "YOU CAN PRESS ANY OTHER KEY IF YOU"
250  PRINT "WISH TO STOP."
260  INPUT A$
270  IF A$ = "YES" THEN  HOME : GOTO 140
280  HOME : PRINT "OUT OF A TOTAL OF ";Q;" QUESTIONS, YOU GOT ";Z;" CORREC
     T."
290  PRINT : FOR T = 1 TO 1000: NEXT T
300  PRINT "THIS GIVES YOU A GRADE OF ";(Z / Q) * 100;"%."
310  FOR T = 1 TO 2000: NEXT T
350  END
1000  REM  ADDITION
1010  HOME
1020 X =  INT ( RND ( + 3) * 1000) + 1
1030 Y =  INT ( RND ( + 3) * 1000) + 1
1040  PRINT "WHAT IS ";X;"   ";Y;"?"
1050 Q = Q + 1
1060  INPUT R
1070  IF R = X + Y THEN  PRINT "CORRECT!":Z = Z + 1: RETURN
1080  PRINT "SORRY. ";X;" + ";Y;" = ";X + Y
1090  RETURN
2000  REM  SUBTRACTION
2010  HOME
2020 Q = Q + 1
2030 X =  INT ( RND ( + 3) * 1000) + 1
2040 Y =  INT ( RND ( + 3) * 1000) + 1
2050  IF Y > X THEN 2030
2060  PRINT "WHAT IS ";X;" - ";Y;"?"
2070  INPUT R
2080  IF R = X - Y THEN  PRINT "CORRECT!":Z = Z + 1: RETURN
2090  PRINT "SORRY. "X;" - ";Y;" = ";X - Y
2100  RETURN
3000  REM  MULTIPLICATION
3010  HOME :Q = Q + 1
3020 X =  INT ( RND ( + 2) * 100) + 1
3030 Y =  INT ( RND ( + 2) * 100) + 1
3040  PRINT "WHAT IS "X;" X ";Y;"?"
3050  INPUT R
3060  IF R = X * Y THEN  PRINT "CORRECT!":Z = Z + 1: RETURN
3070  PRINT "SORRY. ";X;" X ";Y;" = ";X * Y: RETURN
4000  REM  DIVISION
4010  HOME :Q = Q + 1
4020  PRINT "FOR DIVISION QUESTIONS, FIRST TYPE IN"
4030  PRINT "THE QUOTIENT, FOLLOWED BY A COMMA."
4040  PRINT "THEN TYPE IN THE REMAINDER."
4050 X =  INT ( RND ( + 3) * 1000) + 1
4060 Y =  INT ( RND ( + 3) * 200) + 1
4070  IF Y > X THEN 4050
4080  FOR B = 1 TO 3000: NEXT B
4090  PRINT : PRINT : PRINT
4100  PRINT "WHAT IS ";X;" / ";Y;"?"
4110  INPUT R,L
4120  IF R =  INT (X / Y) AND L = X - ( INT (X / Y) * Y) THEN  PRINT "CORR
     ECT!":Z = Z + 1: RETURN
4130  PRINT "SORRY. ";X;"   ";Y;" = "; INT (X / Y);" REMAINDER ";X - ( INT (X /
     Y) * Y)
4140  RETURN
```

COMPUTER CHALLENGES • FOR KIDS •

NUMBER NEWS

Challenge your students to use a newsletter program like *Newsroom* (Springboard) or *NewsMaster* (Unison World) to publish a weekly school newsletter on math only. That's right, on *math.* There are lots of topics they could cover, such as: Famous Mathematicians, Jobs and Math, Optical Illusion Puzzles, Word Problems of the Week (one per grade level), Math Mystery Stories (stories in which the reader must use math to solve a mystery), and Outrageous School Statistics (*e.g.* The cafeteria uses an average of 1321 straws per school day).

— M.D.

Math Workout Record Form

Name: _____

Addition	10 (80%)	10 (100%)				
Subtraction	4 (50%)	4 (80%)				
Multiplication	8 (100%)	10 (80%)				
Division	9 (30%)	9 (50%)				

A student workout record shows the number of problems and the percent completed correctly each day.

Computer Introductions

Young children are eager to know all about their classroom computer —once they've been properly introduced. The on- and off-computer activities in this column will help familiarize the children with parts of the computer and rules for computer use, and will begin teaching them what a computer can do.

MEETING THE COMPUTER

Ask the children to gather around the computer to learn about its hardware parts. Point out the monitor first. Let one child turn it on, and another turn it off. Tell them that the monitor shows the information that has been put into the computer. Next, let children come to the keyboard and point to and name any letters and numbers that they know. Tell them that when we type on a keyboard, we tell the computer what to do. Then point out the disk drive. Tell the children that the disk drive is yet another way to tell the computer what to do. We put instructions, which are stored on a disk, into the disk drive. Point to the printer next. Explain that the printer writes out the words that are stored on the disk, or that appear on the monitor.

LEARNING THE RULES

Preparation: Have your word processing program and a blank formatted disk on hand. You will also need paper and crayons for your students, and red and green construction paper for framing their finished drawings.

Activity: Tell the children that the computer can help them record and remember rules. Tell them the computer has some rules about itself and its disks that it wants us to remember.

Sit down at the computer with your disks, and demonstrate these rules as you explain them in simple language.

Disk Rules

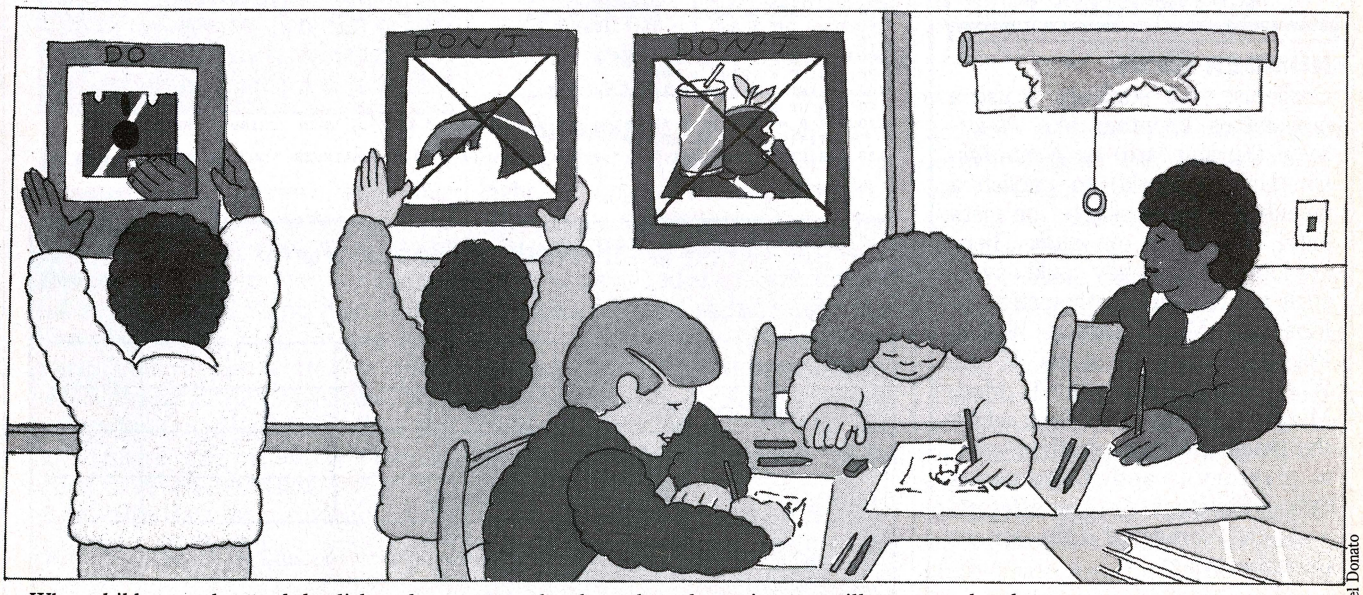
1. When the disk is not in the drive, it should always be in the envelope. *(Demonstrate how to put the disk in the envelope.)*
2. Always hold the disk by the label. *(Have children come up and take turns removing the disk from the envelope, holding it by the label.)*
3. Never touch the exposed parts of the disk. *(Point to the parts they should not touch.)*
4. Don't bend the disk.
5. Don't write on the envelope when the disk is inside.

Computer Rules

1. To load a disk, gently open the disk drive door and put the disk in, holding it by the label. Gently close the disk drive door. *(Insert your word processing disk and turn on the computer.)*
2. Don't touch the disk drive when the red light is on. *(Point out the red light as it blinks while loading your program. Explain that the red light means that the disk drive is either saving information or looking for information on the disk.)*
3. To remove a disk from the disk drive, gently open the disk drive door. Pull out the disk, holding it by the label, and gently close the disk drive door. *(When the red light goes out, remove the program disk.)*
4. Always keep food and drinks away from the computer.
5. Always remember to turn off the computer and monitor when you are not using the computer. *(Show children where the on/off switch is. Turn the computer off.)*

After you have explained the rules, turn on the computer and boot up your word processing program. Ask children to repeat, in their own words, the rules about disks and the rules about the computer. Type the children's responses into the computer and save them on a blank, formatted disk. Then demonstrate how the printer works by making a printout of the rules.

Next, have the class draw pictures to illustrate the disk handling and



When children understand the disk and computer rules, have them draw pictures to illustrate each rule.

Michael Donato

computer rules. Have some children illustrate the "dos" *(do hold the disk by the label; do put the disk in the envelope, and so on)* and others draw the "don'ts" *(don't touch exposed parts of the disk, don't touch the disk drive when the red light is on, and so on).* Make a frame for each of the dos from green construction paper, and a red frame for the don'ts. *(Explain that green means "go" and red means "stop.")* Hang the pictures in the computer area next to the printout of the rules.

INTRODUCING THE CLASS

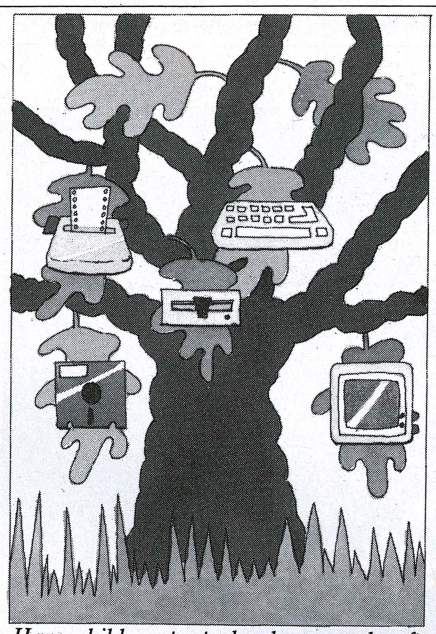
Now that the computer has been introduced, let the computer help the children introduce themselves. The short BASIC program below will present each member of your class, and will help you demonstrate how a computer receives its instructions.

Preparation: Type the following program into your computer (it will run on the Apple II series of computers). Save it on a disk under the name FIRST DAY INTRO.

```
10 PRINT "WHAT IS YOUR NAME?"
;NAME$
20 INPUT NAME$
30 PRINT "HOW OLD ARE YOU?";AGE$
40 INPUT AGE$
50 PRINT "WHAT DO YOU LIKE?";LIKE$
60 INPUT LIKE$
70 PRINT "BOYS AND GIRLS, I WANT TO
INTRODUCE ";AGE$;" YEAR OLD
";NAME$; " WHO LIKES ";LIKE$
```

Gather the children around the computer. Type LIST and press return, and the program will appear on the screen. Explain that the words and numbers on the monitor are instructions that you typed into the computer using the keyboard, and that you stored them on a disk. Then type RUN FIRST DAY INTRO and press return, and your program will be ready to go.

Activity: Call each child to the computer individually. Help him or her find the keys to type in the information asked for by the computer. If the child cannot read, read the words aloud as the computer completes the program and introduction.



Have children paste hardware and software pictures on autumn leaves to make a computer bulletin board tree.

COMPUTER BULLETIN BOARD TREE

In the fall, children enjoy collecting colorful leaves. Ask them to bring some large leaves to school for a computer vocabulary tree.

Preparation: Cover a bulletin board in blue paper for a background. Cut out a tree with bare branches using brown construction paper or brown poster board. With green construction paper, cut spiked grass and place it at the base of the tree.

Materials: Make simple drawings to illustrate the monitor, keyboard, disk drive, printer, and disk (see illustration). Make sure that each child has at least one picture of each. Also, make sure that each child has at least five colored leaves. (If you do not have enough real leaves, cut some out of yellow and orange construction paper.) Give each child or each table some scissors and paste.

Activity: Show the children how to cut out (or tear around, if they cannot yet cut) the vocabulary pictures. Paste one picture on each leaf. Let the children continue pasting pictures on leaves and let them dry. Using thumb tacks, place each leaf on a branch of the bare computer tree on the bulletin board so that the leaves complete the shape of the tree. Explain to the children that in fall, leaves fall off of trees. Tell them that when a leaf falls off of the computer vocabulary tree, the first child who names the vocabulary word and points to the appropriate part on the classroom computer gets to keep the leaf. Make sure that each child has a turn to collect many leaves as you remove the thumb tacks and let them fall. Let the children take the leaves home as prizes for correct answers.

COMPUTERS AND STORY TIME

Explain to children that since computers are fairly new, we are just learning all of the different ways that they can help us. As a way of stimulating creative thinking about computer use, suggest to the children that many of the characters in fairy tales and folklore stories would have done things differently if they had computers long ago.

Activity: Choose a classic story to read or to tell the children in your circle time or quiet time. When the story is finished, ask the children to think of ways that the characters could have used computers to help them. In the story of Rumplestiltskin, the princess could have had the computer remember the names of all the people in her kingdom and what they looked like. That might have helped her guess Rumplestiltskin's name on her first try! Or, the three bears could have left a message on their computer screen saying "We'll be right back!" to warn unexpected visitors like Goldilocks.

After the discussion, ask children to draw a picture of a character using a computer to help him or her.

When they have completed this activity, ask the children to imagine ways that the computer could help in the classroom. For example, instead of verbal roll call, each child could come to the computer and type in his or her name. If the children's suggestions are feasible, incorporate them into your classroom. ■

Trisha Ainsa is director of the Computer Literacy in Children, Title VII Program, Region XIX Education Service Center, El Paso, TX, and an associate professor at the University of Texas at El Paso.

SOFTWARE SHOWCASE

SOFTWARE RECOMMENDED FOR TEACHERS, BY TEACHERS

In the Explore-a-Story programs, like The Lima Bean Dream, *the book graphics match the screen graphics, which can be manipulated using a joystick, KoalaPad, or keyboard.*

EXPLORE-A-STORY SERIES

Computer: Apple IIe, IIc (128K); Apple IIGS
Topic: Reading
Grade Level: K–4

The Explore-a-Story series addresses early reading skills in some very exciting ways. Not only do students practice comprehension as they read a story from a book and transfer that knowledge to the computer screen; they are also given the opportunity (never available when simply reading a text) to take that story and modify it, enhance it, edit it, or rewrite it completely. Characters can be moved or eliminated; others can be added. Vocabulary work is enforced in an imaginative, student-controlled way.

There are currently eight programs in the series. Each program is set up identically, making it easy for teacher and student to move from one to the next. Each package contains a quite excellent teacher's manual and five paperback student storybooks in addition to the program disks.

With each package, students are expected to first read the story (either individually or as a group), then page through the identical scenes on the computer screen. They can then go back and start experimenting with the computer scenes.

In the upper right hand corner of each screen is the page marker. Clicking with the mouse (or using the joystick, or KoalaPad, or keyboard) will change the page. In the upper left hand corner is a menu box. Clicking that will reveal an icon-based menu across the top of the screen. The menu allows students to choose from a series of characters or a series of objects, either of which can be added to any screen; the background of the story can be changed to another scene; or a set of vocabulary words pertinent to the story can be added to the picture. There is also the option to go back to the beginning of the story, go to a series of story starters for further creative work, or go to a set of summary pages of the story which include some text. All student work can be saved or printed out (in black and white or color).

There are several features which really make these programs exciting for children. When the student is viewing any screen, it is not static. Butterfly wings are moving, tails are wagging, rabbit ears are moving, and so on. Moving an object or character on the screen means more than simply "dragging" it; the rabbit actually hops from place to place, a character goes through the motions of climbing a ladder, or a bird flies from one side of the screen to the other — very impressive programming throughout.

The stories currently available are: *Rosie, the Counting Rabbit* (grades K-1), in which Rosie moves through the forest counting objects and animals from one to ten. *Just Around the Block* (grade 1) is a book-length series of limericks introducing a new character and a new hour on each page. *A Brand New View* (grade 1) is written in rhyming form. It is about a little girl who loves to hang upside down to view the world. *The Bald-Headed Chicken* (grade 2) is about a little chicken who is sent by the sun on a series of adventures. *The Sleepy Brown Cow* (grade 2), also written in rhyme, is about a cow who dozes off in the barn, only to have a whole series of animals fall asleep on top of her. *The Lima Bean Dream* (grade 3) is the story of a legume-hating little boy whose dreams take him into a whole world of lima beans. *What Makes a Dinosaur Sore* (grade 3) is a series of plays on words: on each page a different dinosaur is named, with a quip about what would make him sore. *Quasar Kids* (grade 4) is the story of two space age kids who save a planet by getting two enemy camps to cooperate.

The instructional design of all the programs is very impressive, and the animation is wonderful. Graphics are motivating, clear, and easy to identify. Much thought has obviously gone into what would make all aspects of these programs accessible for even the youngest children. All content and vocabulary is appropriate to the indicated grade level, and subjects are simple but enticing. The programs could sustain infinite use because of their open-ended, creative approach to book writing and reading. The Explore-a-Story series uses the capabilities of the computer to the fullest — I love it!

Price: $66
Policy: Backup included; 30-day preview

Source: D.C. Heath and Company, 125 Spring St., Lexington, MA 02173; 800/334-3284
Evelyn Woldman,
Adjunct Faculty,
Lesley College, Cambridge, MA
(Circle 100 on Product Info Card)

TIMELINER

Computer: Apple II family
Topic: Utility
Grade Level: K–12

Schoolchildren have been making time lines for generations, but it's never been quick or easy — until *TimeLiner.* This program can create time lines that are as simple or complex as necessary; that cover one day, one week, one year, or many years; that can be used in subject areas as different as science, physical education, history, art, music, or debate.

With *Timeliner,* events can be entered in any order; the program automatically places them in the right spot on the time line. The program also indicates how many pages the time line will run, up to a maximum of 99. The program also has options to compress and expand the spacing of material on the time line. Two time lines can even be merged to create a longer, more complex time line. This is extremely useful, as a complex time line task can be divided so two students can independently manage a detailed project. Once merged, though, the two time lines cannot be distinguished — it would be nice to be able to use different fonts for each one. (The Teacher's Guide does address this problem and suggests a few ways of getting around it, such as using all upper- or all lower-case letters in each entry.) It would also be nice to have the ability to merge more than two time lines.

The program is easily understood. Students need to know only seven letters to use *TimeLiner* commands. Entering information does require some writing and reading skills, but with a teacher's help, *TimeLiner* could even be used by kindergartners.

The Teacher's Guide is clear and concise. It includes directions for us-

(continued)

Circle 24 on Product Info Card.

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(continued from page 45)

ing the program in different classroom settings, tips on student preparation, and reproducible activity and reference sheets. Six sample time lines are included on the disk.

TimeLiner is very flexible, and can accommodate many interests and ability levels as well as different teaching styles and lesson plans.

Price: $59.95; $180 for lab pack of 10 disks

Policy: Backup included; 30-day preview

Source: Tom Snyder Productions, 123 Mt. Auburn St., Cambridge, MA 02138; 617/876-4433

Evelyn Dale, Teacher Education Faculty, California State University at Sacramento

(Circle 101 on Product Info Card)

AND IF RE-ELECTED. . .

Computer: Apple II family

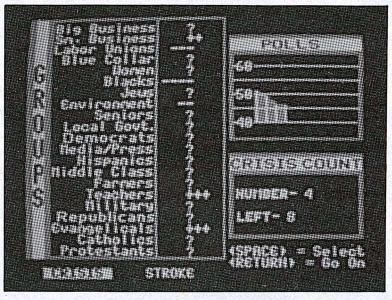
Topic: Social studies

Grade Level: 7 and up

And if Re-elected. . . is a simulation designed to demonstrate the impact of decision making on a re-election campaign. The student role plays the incumbent president, who must resolve twelve crises before election day. The public (represented by 21 special interest groups) "reacts" to the decisions, and polls reflect the impact of the decisions on general popularity. At the conclusion of the crises, students learn the result of their decisions — they either win or lose the election. The computer then summarizes the impact this president's decisions had on "history."

The program begins by asking the students to put together a personal profile, choosing the state, sex, political party, and occupation of the president they will play. When this is done, the program offers the option of resolving one of nine pre-determined sets of crises — which correspond to worksheets supplied with the program — or 12 random crises.

As the "president" resolves each crisis, the program displays the public opinion impact using a chart with plus (positive) or minus (negative) signs indicating group response. A graph showing general popularity is also presented. The student is then given the opportunity to "stroke" one



While role-playing the president in And If Re-elected. . . *students learn what it takes to make constituents happy.*

of the special interest groups, by making a favorable decision on a problem specific to that group. The result of this decision can change the number of pluses or minuses shown in the chart next to that group. (Of course, a decision that benefits one group may adversely affect another. This will be reflected in the chart as well). The program then moves on to the next general crisis.

After nine crises have been resolved, the program identifies the student's opponent, who should be taken into account when solving the last three problems. After all have been answered, the program displays a graphic of the states by area (Northeast, South, Midwest, and so on), and gives a breakdown of popular votes (percentage) and electoral votes (winner take all) by state. As the numbers are given for each state, its outline is filled in with a pattern indicating the winner of that state. After each state has been covered, the national totals are presented, and winners congratulated, and losers consoled.

The program's screen displays are clear and crisp; there is some sound and some graphics, but the program is not dependent on them.

The documentation is also clear and functional. There is a good teacher section which includes program objectives and lesson plans. Also included is a student workbook which provides very good activities, unit tests, and pre- and post tests. Sets of decision making criteria are provided for the student and the teacher. All that is missing is a thoughtful discussion of public opinion polls, which would be helpful to student understanding of the program.

The design of the program is such that students read the screen and make decisions based upon the screen and their workbooks. Although the program works flawlessly and is very easy to operate, input can be changed only at the time of entry. The program cannot be saved at an intermediary point, so the task must be completed in one session — which could be problematic, since each simulation takes a great deal of time to run.

Aside from this, the design of the program from a technical viewpoint is quite good. Its self-pacing encourages thought before any section is answered, and the momentum it builds gives students an excellent opportunity to see how presidential decisions may interact with public opinion.

Price: $65

Policy: Backup included; 30-day preview

Source: Focus Media, 839 Stewart Ave., Garden City, NY 11530; 800/645-8989, 516/794-8900

Philip Ingber
District Computer Coordinator
Nyack Public Schools
Nyack, NY
(Circle 102 on Product Info Card)

TEMPERATURE EXPERIMENTS

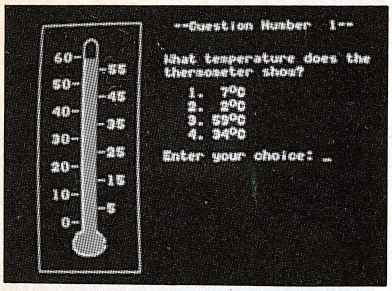
Computer: Apple II family; Franklin ACE 1000

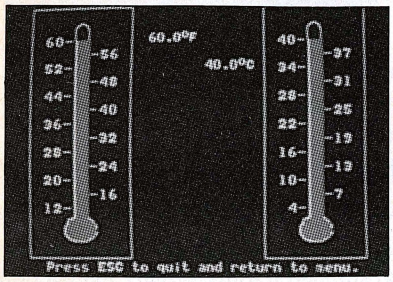
Topic: Science

Grade Level: 3-9

Temperature Experiments is one of the most exciting and easy-to-use science tools created for the computer to date. With the software and accompanying temperature probes, teachers and students can become real investigative scientists.

The first part of the program is "Thermometer Drill," a basic tutorial on how to read a thermometer. A





Temperature Experiments *includes a thermometer tutorial (top), and the ability to read temperatures from the probes in Fahrenheit and Celsius (bottom).*

second part called "Electronic Thermometer" uses graphic thermometers to create a visual link on the screen to the probes attached to the joy stick port of the computer — the on screen thermometers "read" the temperature sensed by each probe. You may use one or two probes, in either Fahrenheit or Celsius (or one of each). Another section, "Temperature Graphing," displays temperature readings over a given period of time (for example, one reading every five seconds for ten minutes). There are also options for saving and deleting graphs from the disk.

The documentation is clear, concise, and very helpful. There are seven ideas for using the software at an elementary level, and three for junior high. There could have been more, but the science teacher will probably be sufficiently inspired by his or her own curriculum and imagination.

The only flaw in the documentation concerns the printing of the graphs. Users are told that in order to print a graph, they must check the manual for their printer for a special code to "dump" the graphic. Teachers do not have time to look up printer code options — some may not even know what they are looking for. Hartley should list the codes for the most popular brands of printers used with Apples in schools, or better still offer them in menu form on screen.

Above all, the *Temperature Experiments* program is unbeatable in moti-

(continued)

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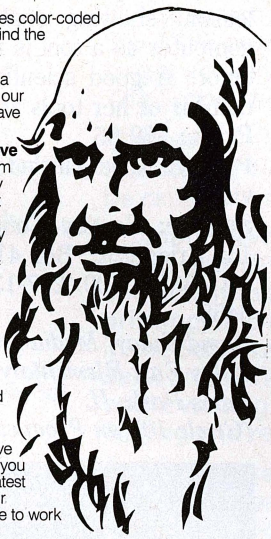

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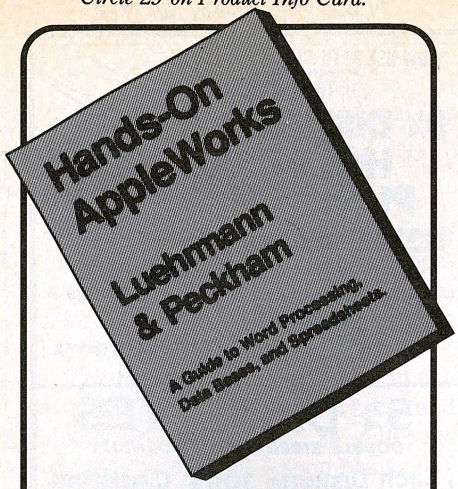

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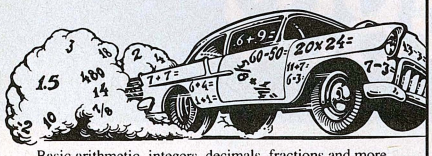

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SOFTWARE SHOWCASE

(continued from page 47)

vating students to look at their world with a scientific eye. Simple calibration of the probes is in itself a good lesson, showing students that the computer as a tool is not immune to error. A good scientist makes sure that his or her tools are correct.

Price: $69.95
Policy: Backup included; 30-day preview
Source: Hartley Courseware, Inc., 133 Bridge St., Box 419, Dimondale, MI 48821; 800/247-1380, 517/646-6458

David Fiday, Media Director
Palos East Elementary
Palos Park, IL
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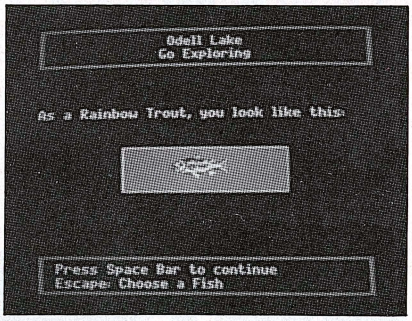
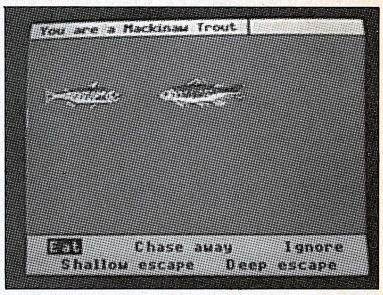


Kids "become" fish in Odell Lake.

ODELL LAKE

Computer: Apple II family
Topic: Science
Grade Level: 4–6

If you are a fan of the original *Odell Lake* (which came out in 1980), you'll love the remake — and so will your students. This food web simulation game is based on the real-life Odell Lake in Oregon. Members of the food web include fish, a seal, an osprey, bottom life forms, and other creatures found in the lake. Students are asked to "role play" one type of fish; their goal is to swim through Odell Lake, surviving 11 encounters with other creatures. With each encounter, students must decide on an action for their fish to take, from swimming away to eating what they encounter. An incorrect decision may result in the student-fish being eaten! In the "Go Exploring" section, the fish, animals, and plants that students encounter are identified on screen; in "Play for Points," students must recognize each by sight.



Will the trout eat this fish?

Documentation for MECC software is usually laudable, and *Odell Lake* is no exception. The new program also features many instructional supports the original lacked, such as on-screen information about each fish. All-new worksheets help students examine a food web, understand predator/prey relationships, and learn new vocabulary.

The on screen directions are clear and readable for the intended audience of fourth through sixth graders. The color graphics deserve an "A" for the detail: we looked the fish up in the encyclopedia and were amazed at the quality of color reproduction in the program. We were also glad to see the "giant jaws" done away with — in the original version, when one fish ate another, the predator's jaws became enormous and the prey was eaten bite by bite. This caused quite a noisy reaction by the students. The new version simply has one fish swallow the other. It's not as exciting, but it's also not as distracting to the purpose of the program.

The option of playing for points is helpful in motivating the students to master visual recognition of the fish (through note taking and other means) in a shorter period of time. The program's design is well-planned, and *that* is the most important part of any lesson.

Price: $49 (Apple II); $55 (3 1/2-inch diskette for Apple IIGS)
Policy: Backup included; 30-day preview
Source: MECC, 3490 Lexington Ave. North, St. Paul MN 55126; 800/228-3504; 612/481-3500

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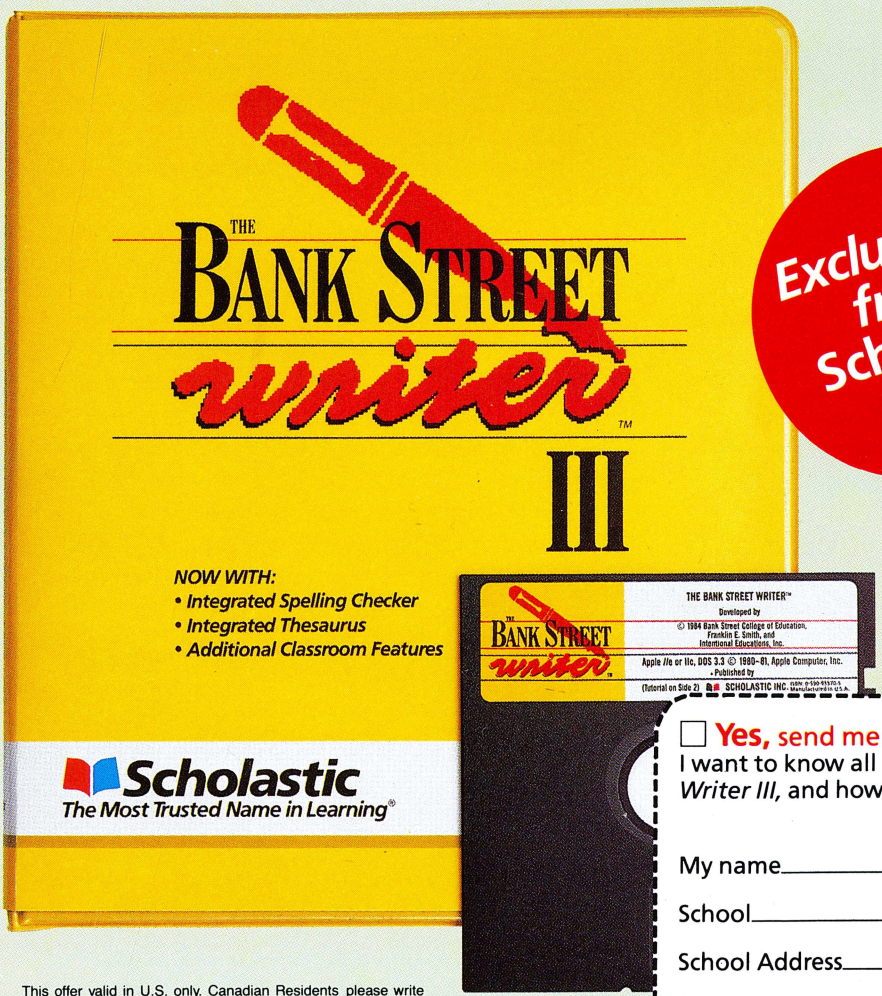

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